

Columbus Regional Geographies

SENIOR SERIES BOOK I
THE SOUTHERN CONTINENTS



Photo by E.N.A.

THE CHRIST OF THE ANDES.

This enormous bronze statue stands on the summit of one of the chief Andean passes, on the boundary between Argentina and Chile. It was erected to celebrate a peace made, without war, between the two countries in 1902. On the base the two countries have carved the following inscription :

" Sooner shall these mountains crumble into dust than the people of Argentina and Chile break the peace, which, at the foot of Christ, the Redeemer, they have sworn to maintain."

What a fine thing it would be if all countries were to settle their differences in the same way !

[Frontispiece.

COLUMBUS REGIONAL GEOGRAPHIES

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SENIOR SERIES BOOK I

THE SOUTHERN CONTINENTS

WITH 130 ILLUSTRATIONS IN THE
TEXT AND FOUR COLOURED PLATES

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COLUMBUS REGIONAL GEOGRAPHIES

An entirely New Series of Geography Texts

By LEONARD BROOKS, M.A.

Formerly Geography Master, William Ellis School, N.W. 5

AND

ROBERT FINCH

Geography Master, Hornsey County School

THESE books are suitable for boys and girls from seven to fifteen years of age, and will be found extremely valuable when pupils follow some plan of individual work. The volumes are lavishly illustrated by pictures both in colour and in black-and-white, as well as very many really useful sketches and diagrams.

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AUTHORS' PREFACE

THIS book is intended for use with boys and girls about the age of 11-12. It is the first of four books designed to provide a Senior School course in Geography for children over the age of eleven.

Much attention is given to descriptive geography, and it is strongly recommended that teachers should supplement this important aspect of the work by arranging for additional readings from books of travel, etc., both by the teacher during class lessons and by the pupils during private reading. The subject is treated on simple regional lines, and special importance is given to comparisons between regions possessing somewhat similar characteristics, while topics in Physical Geography are taken where they arise in the normal course of teaching, and not in a separate series of lessons.

Exercises are set at the end of each chapter, and in connection with many of the maps and other illustrations. Many of these may be answered orally, others may be done in writing, but most of the exercises requiring mapping should be carried out by the pupils in their note-books or mapping books. The important thing is that the pupils shall be given plenty of things to do for and by themselves.

One other matter is strongly recommended to teachers for their consideration. During the year this book is used select one or two topics for fuller treatment than can be given in the book itself. It is a very good plan to do some

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- - THE HOMELANDS - -
- - OF SOUTH AMERICA - -

THIS book is about the three Southern Continents—South America, Africa and Australia—with New Zealand and the Pacific Islands. They are called the three Southern Continents because they lie to the south of the other three—North America, Europe and Asia. But while the three Northern Continents lie in the Northern Hemisphere (north of the Equator), only one of the three Southern Continents lies altogether south of the Equator (see Fig. 1). Notice that Africa has the Equator passing through its middle, and that the Straits of Gibraltar are about as far *north* of the Equator as the Cape of Good Hope is *south* of the Equator. The north of South America is also north of the Equator.

We shall begin with *South America*, which is the fourth largest of the continents. Look at it on the globe, and notice how it lies with regard to North America, its twin continent in the New World. South America is much farther to the east than North America, for the great shoulder of Brazil stretches out far into the South Atlantic towards Africa. You can see this clearly if you find Valparaiso, on the *western* coast of South America, and notice that it is directly south of New York on the *eastern* coast of North America.

South America is a huge and rather rough triangle,

with its apex or sharp point turned south. Notice that the terrible Cape Horn, hated by sailors because of the bad weather usually met near it, is really no farther from the South Pole than the North of Scotland is from the North Pole; yet it is much colder at Cape Horn in winter than in the North of Scotland. Why, we shall see later.

One of the most important things to understand is how the different peoples of South America live, and *why* they live in their own particular way. Some are



FIG. 1.—MAP OF THE THREE SOUTHERN CONTINENTS.

savages and some are civilised like ourselves. Some are farmers, others fishermen; some get their living chiefly by *keeping* animals, while others live by *hunting* animals in the forests; some are miners, and others railway workers, while many get their living in the cities much the same way as people in our land.

In every continent there are many different peoples, all getting a living in ways that are different from those followed by others. This is chiefly because every continent has many different kinds of lands in it—some are highlands, others are lowlands; some

are desert, while others are fertile and well watered ; some are thickly covered with dense forest, while others are clothed with the rich grasses that cattle and horses and sheep love. Some parts of the three Southern Continents are always hot, while other parts are cold ; some parts have rain in summer, some have rain in winter, and others have little or no rain at all ; some are both hot and wet, some are both hot and dry ; some are both cold and wet, and others both cold and dry ; while other parts are neither too hot nor too cold, nor too wet nor too dry.

All these things make differences in the ways in which the people work and play, differences in their clothes and their houses, their tools and their weapons, and in the food they eat. Each different part of the continent gives its people its own particular chances of getting a living, and these chances depend on the kind of land it is and on the kind of climate it has. South America, then, like other continents, has many different kinds of homes for its peoples.

Many people in the *Selvas*, the great forests of the Amazon, whose only safe paths are the rivers, are still savages, and rarely, if ever, see white men. Their homes are in little clearings in the forest, where they live, not in little huts that form a village, but in one large house called a *maloka*, with a high ridged roof of palm thatch and great pointed gable ends, one of which is open to let in the light and air (see Fig. 2). The different families live each in their own little part round the inside of the *maloka* ; and the middle part of split tree trunks, with the flat sides worn smooth by the shuffle of bare horny feet, is used as the meeting-place

of the men when they smoke and talk together. Behind the big house are little fields where the women grow bananas, manioc, sugar-cane, maize, tobacco or sweet potatoes—just the things that grow well in such a hot, wet land. The men and boys go hunting in the forests, shooting birds with their blow-guns,



Photo by E.N.A.

FIG. 2.—A NATIVE INDIAN VILLAGE NEAR MANAOS.

Describe the houses shown in the picture.

spearing the peccaries or wild pigs, and collecting wild honey, fruits and roots, and sometimes grubs, insects and small reptiles, all of which they find tasty and good.

Other people of the Selvas live near the rivers ; and because the rivers rise in sudden floods at certain times of the year, these people wisely build their

houses on tall stilts or piles, or even among the trees. Others live near the few settlements and towns on the main stream, where white men live because of the rubber that can be collected and the fine timber that can be got from the forest itself; such natives get their living by working for the white men in the forest, or even in the towns. But most of the forest folk build their houses, get their food and clothes and everything they need from the forest.

The people of the *Pampas* live in a very different way, because the land in which they live is different. The *Pampas* are wide plains of temperate grasslands, almost treeless save where men have planted trees round their houses. In the old days, before the coming of the white men, the people of the *Pampas* got a living by hunting the animals which then swarmed among the tall grasses, much as the Red Indians of North America hunted the deer and the buffalo. But nowadays most of the native people are employed by the owners of the great cattle farms or of the wide grainlands, into which large parts of the *Pampas* country have been turned. Here we shall find that a large number of Europeans have made their homes. The land is still used for feeding millions of animals—but they are not wild; they are the cattle, sheep and horses tended by the peons or the gauchos.

The Llanos—the rich grasslands of the Orinoco—are cattle lands too; but they are *tropical* grasslands, and in many ways different from the *Pampas*, as we shall see.

Dwellers on the *High Plateaus of the Andes* live differently from both the people of the *Selvas* and

those of the Pampas. Their homeland is much colder than the Selvas, because it is so high, and much drier. There are no trees like those of the Selvas and no rich grasses like those of the Pampas—only coarse grasses and tough herbage growing in patches among the



Photo by Tropical Press.

FIG 3.—BOYS AND GIRLS OF OROYA, PERU.

This picture shows the stone houses of the high Andean plateaus.

rough rocks. The people live in poor stone huts, with stone floors; and in the frosty cold they wrap themselves in their ponchos, with their bare feet towards the tiny fire of llama dung, which is the only fuel they have. They keep a few goats and perhaps a llama or two, for the land so high among the mountains is

too barren for cattle. Their goats give them milk and cheese and an occasional stew. Potatoes they may grow in a little patch of garden, or get from people who live in the richer lands much farther down the mountain-side.

Now think of the South American Indians who live

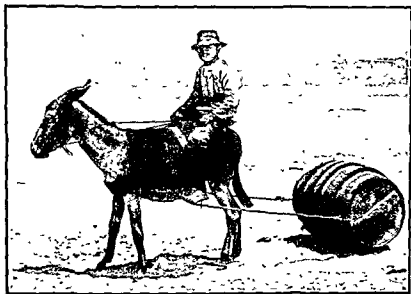


Photo by E. N. A.

FIG. 4.—A BOY OF ANTOFAGASTA, ONE OF THE NITRATE PORTS OF THE ATACAMA DESERT IN NORTHERN CHILE.

The barrel contains drinking water which the boy is taking to the workers in the nitrate fields. Fortunately such an old fashioned method as this is now *seldom* used.

on the coasts or on the many islands in the far south of the continent, in a land that is rainy and raw and chilly except for a short time in summer. They do not live by growing things, or by keeping cattle, or by hunting in the forests, although forests are there. They are fisher folk, and depend upon the sea for a

living, and upon the forests for their canoes and fish spears, their tent-poles and hut posts.

These are only a few of the homelands of South America. There are besides, the homelands of the tropical north, where the Colombians and the Venezuelans live by growing sugar-cane, cocoa, coffee, cotton and bananas, or by keeping cattle. There are the homelands of south-eastern Brazil, where the world's biggest coffee plantations are, and where tropical fruits and grains of many kinds can be grown. There are the homelands of middle Chile, where Europeans have made homes and grow grapes and oranges in much the same way as people do in the Mediterranean lands of Europe. And there is the desert land of Atacama, which nowadays is the homeland of people who work in the nitrate fields and factories to get out the nitrates that are used as fertilisers for fields and gardens throughout the civilised world (Fig. 4). How do they manage to live in the desert? That question, and many others also, we must leave to be answered in the chapters that follow.

QUESTIONS AND EXERCISES

- (1) Find South America on the globe. Through which part of it does the Equator run? Find the Tropic of Capricorn, which roughly marks the southern limit of the Hot Lands. Now make a map of South America to show (a) the tropical parts, (b) the temperate parts.
- (2) On an outline map of South America show, by shading, the Andes backbone, the Guiana Highlands and the Brazilian Highlands. Mark the rivers Orinoco, Amazon and the two biggest of the rivers that flow into the Plate

River Estuary. Now print the words Llanos, Selvas and Pampas in their appropriate places. Compare your result with Fig. 37.

- (3) Collect pictures of South American animals ; fasten them in your exercise book, and put a little note under each to say where it lives. Try particularly to get pictures of the jaguar, the tapir, the llama, the anaconda or water snake, the macaw or Amazon parrot, the armadillo, and the rhea or South American ostrich.
- (4) Look at a map which shows the countries of South America and find out (a) which is the largest ; (b) which is very long and narrow ; (c) which is filled with high mountains ; and (d) which has most towns and railways in it.

- THE SELVAS OF THE AMAZON -

THE AMAZON rises in a mountain lake high up in the Andes of Peru and not many miles from the Pacific. It flows northward through deep gorges for hundreds of miles, and then turns eastward through a narrow gap in the Andes to the great Amazon basin that fills more than half Brazil with its monster fan of large tributaries. The "Mother of Waters" enters the Atlantic through many mouths, the chief of which is the Para River, which at its mouth is nearly 200 miles wide (see Fig. 5).

Although the Amazon is not the longest river in the world, it is the greatest, because of the enormous amount of water it pours into the ocean, and because of the giant tributaries which flow into it from the north, west and south. Many of these tributaries have strange Indian names which are difficult to pronounce; a few have Spanish or Portuguese names—Madeira (the "river of woods") and Rio Negro ("black river")—given to them long ago by Spanish or Portuguese explorers.

The *first* white man to go down the Amazon was *Francisco de Orellana*, a Spaniard who made the voyage from Peru to the Atlantic in 1541, and told extraordinary tales of the Amazon forests and the people and creatures living there. Since that time stories of the Amazon and its *Selvas* or forests have led many to suppose that the whole Amazon basin

is a vast swampy jungle and forest, haunted by fierce animals, poisonous reptiles and insects, and inhabited by savage tribes.

Nowadays, however, much more is known about this land, although there are still great stretches of it that have never been explored or mapped accurately. The dense jungle and forest are there, but they lie

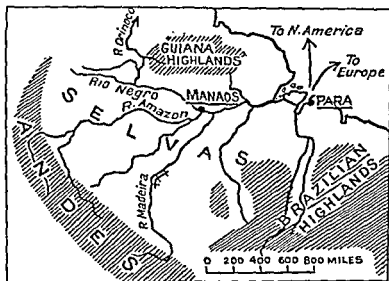


FIG. 5.—MAP OF THE AMAZON BASIN.

chiefly in the lower parts bordering the rivers, and not all over the basin. It is quite natural that people who penetrated into the Selvas by way of the rivers should think of them only as dense forest and jungle, where those who go ashore are soon lost; for that is what they see from the rivers. But away from the river lowlands there is much fairly high ground, and in many places hills and ranges where the forest thins

out, and even gives place to wide, high, open grasslands called *campos*.

There is no doubt about the *insects*, however. Nowhere else in the world are there so many that are dangerous and destructive. Fever-spreading mosquitoes haunt the rivers, forcing travellers to wear mosquito helmets by day, and to sleep behind mosquito

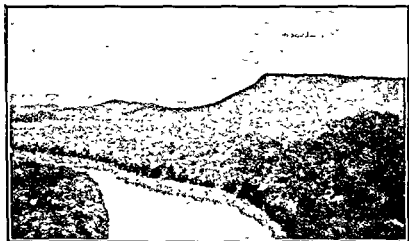


Photo by E. N. A.

FIG. 6—AERIAL VIEW OF THE SELVAS.

Notice the river and the dense forests which cover the lowlands.

nets at night. Fire ants whose bites cover one's body with burning spots, taxi ants with powerful jaws that make nasty wounds, pium flies that suck blood, sauba ants that cut pieces out of leaves and carry them off like tiny waving umbrellas, and so ruin gardens and plantations—all are there in the dense forest and along its river edges. So are gorgeous butterflies, whose size and delicate colour fill one with wonder; and strange insects like the Peruvian

"traffic bug," that carries a red light in its head and a green light in its tail. Giant snakes live by the rivers: the anaconda is very dangerous, and grows to so great a size that extraordinary tales are told of it by the natives; but other snakes are so harmless that they are kept in native houses to rid them of rats, or bats, or other nuisances. In the forests the larger creatures are rarely seen, but they are there—jaguars, tapirs, and troops of peccaries or wild pigs.

The yellow flood of the Amazon is the home of swarms of alligators; of large turtles eagerly sought by the natives and kept in pens by the riverside until they are sent to Manaos and other towns along the river; and of the curious "cow-fish" or manatee—a mammal and not a fish—whose flesh tastes like pork, and whose blue-grey colour makes it hard to distinguish from floating logs by those who hunt it.

Shoals of fierce, many-toothed fish, called *piranhas*, and electric eels 7 feet long and 6 inches thick, make Amazon waters dangerous for swimmers and for animals that drink by its shores.

It is a mistake to think that the Amazon basin is so hot and wet that white men cannot live there. In the jungle few human beings can live, and those only the most uncivilised of savage tribes; but parts of the Selvas are neither too dangerous nor too uncomfortable for Europeans who take the precautions usual in tropical countries. Often in the upper basin it is cool enough for a blanket to be comfortable, especially when a chilly wind from the snowy Andes far away to the westward "sends the thermometer down into the forties and sets the natives shivering."

The driest part of the year is during June and July. The very *rainy season* is from December to the end of May, when rain falls every day—but not *all* day—over the greater parts of the basin, and the rivers rise from 20 to 60 feet above their low level and the forest trees by the river stand nearly waist deep in water.

The chief interest of the white trader in the Amazon basin is the wild rubber, which is brought down by river from the forests, where it has been collected from the rubber trees by native or Portuguese rubber gatherers. But this wild rubber, so called because it is obtained from trees growing in their wild state, is not so much sought after nowadays. Four-fifths of the rubber used in the world to-day comes from the great rubber plantations in Malaya, Ceylon and other lands. The trees now carefully cultivated in these rubber plantations have mainly come from seedlings obtained from the Amazon forests.

The Amazon forest, however, has other wealth in its nuts and fine timber; in the sugar and cacao, tropical fruits and cotton grown in its forest clearings; and in its manioc, which is the source of tapioca. The manioc root provides the chief food of the Amazon Indians, who scrape it into fine pulp, and put the pulp into long tubes of plaited cane weighted at the bottom and hung up so that the poisonous juice of the root is gradually squeezed out through the holes in the tube. When the pulp is dried and powdered it forms a fine flour, from which cakes and bread can be made. This is known all over the Amazon basin as *farinha*. In other parts of the world it is called *cassava*.

Nowadays steamers make their way up the main stream and its tributaries to great distances from the sea. Regular tours are run from Liverpool across the Atlantic and up the Amazon to Manaus, a thousand miles from the Atlantic, in steamers of 7,000 tons. The



Photo by E. N. A.

FIG. 7.—VIRGIN FOREST ON THE BANK OF THE AMAZON.

The picture shows a high canopy of trees from the branches of which hang orchids and lianas, which spread their greedy fingers downward, shrouding the dense underbrush, throughout the day, in green twilight. Notice the rubber collector's hut and the native turtle pen.

round trip takes about six weeks, and costs from £90 to £120 for the 11,800 miles' journey.

Long before the steamer enters the Amazon the sea changes in colour from deep blue to pale yellowish green, because of the silt brought down by the river. On the way up to Para, with the great Marajo Island on the right, the ship passes close under the high green " wall of forest," which is so dense that passengers

railway to the upper Madeira tributaries and the rich lands of *Bolivia*. The Madeira River, in fact, is *Bolivia's* best way to the markets of Europe, which buy her tin and copper, her hides and skins and her forest products—quinine bark, drugs and rubber.

QUESTIONS AND EXERCISES

- (1) Why is the Amazon called "The Mother of Waters"?
Make a map to show how much of Brazil is in the Amazon basin. Mark and name Para and Manaos.
- (2) Find the town of Iquitos on the map. How many miles is it from the mouth of the Amazon? How high is it above sea-level? Work out the river's average fall per mile from Iquitos to the mouth.
- (3) Make a list of the chief products of the Amazon basin and say how they are taken to Liverpool or New York.
- (4) Explain why rubber is not such an important product of the Amazon basin as it was thirty years ago.
- (5) Fasten in your book pictures of animals, birds, insects or river creatures of the Amazon basin. You may draw them if you like. Write under each a few words of description.

- CATTLEMEN OF THE LLANOS - - AND THEIR NEIGHBOURS -

NORTH of the Amazon basin is another large river-basin opening to the Atlantic. This is the basin of the Orinoco, the great river which flows through the Republic of Venezuela.

Venezuela means "little Venice." The first Spaniards who visited the great delta of the Orinoco, and explored some of its many channels, found Indian villages of mud-walled, thatched huts, perched high on stilts to keep them dry when floods came. These reminded them somewhat of Venice, the city of canals and waterways; so they called the country "little Venice."

The Orinoco is particularly interesting to us, for this is the river up which Sir Walter Raleigh made two great expeditions in search of Manoa, the Golden City of the fabled Indian prince El Dorado, about whose wealth wonderful tales were told. In the second expedition Raleigh lost his son in a fight with the Spaniards, and returned to England a broken and disappointed man. You should read the account of Raleigh's life in one of the books in the school library.

When Sir Walter Raleigh made his journey up the Orinoco, he passed through the mangrove swamps and tropical jungle of the delta, and came to country which he described in his record as follows :

" Hills raised here and there over the valleys ; the rivers winding into divers branches ; the plains adjoining, all fair green grass without bush or stubble ; the deer crossing on every path . . . cranes and herons of white, crimson and carnation perching on the riverside ; the air fresh with a gentle easterly wind."

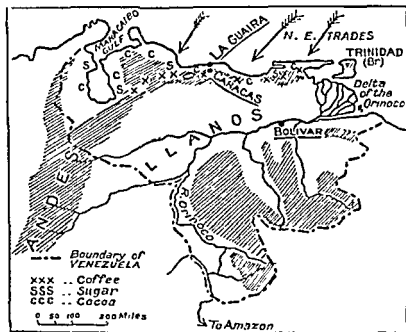


FIG. 9.—MAP OF VENEZUELA.

This pleasant land was the beginning of the *Llanos*—the great tropical grasslands of the Orinoco, where to-day millions of fine cattle graze on the rich pastures and most of the people are cattlemen. Farther upstream than Sir Walter went, the trees become fewer and the grassy plains broader. Here are the true Llanos, the plains of the cattlemen, which cover a large

part of Venezuela and also the eastern part of the neighbouring state of Colombia (see Fig. 9).

Notice how the Orinoco is fed by many large tributaries, some from the Andes in the west, some from the Guiana Highlands in the south, and some from the coast ranges in the north. Tributaries from the south flow through dense tropical forest, which is really a northward continuation of the Selvas of the Amazon. Indeed, the country in the southern part of the Orinoco basin is mainly hot, wet forest, and altogether different from the grassy Llanos which lie to the north of the river.

If we journey up the Orinoco in a steamer we shall enter the delta by its southern mouth, which is widest and deepest, where mangrove swamps line the banks, and scarlet ibises and snowy egrets whirl in flocks. Farther up, beyond the fringe of mangroves, we can see taller trees, which soon line the banks in dense forest. Here and there dug-out canoes full of Indians put out from their mud and thatched villages, bringing farinha (see p. 26) and wild fowl to exchange for ships' biscuits and other things. They are poor, and get their living by fishing in the river and hunting in the forest, or by growing fruits in tiny patches of gardens near their huts.

Beyond this stretch of swamp and forest we pass the grassy park-like country mentioned by Sir Walter Raleigh, where cattle are reared in large numbers, especially on the north side of the river. The villages we pass are few, and consist of poor-looking mud huts huddled together by the water's edge. The farms of the cattlemen are too far inland to be seen from the river.

Two hundred and forty miles from the mouth of the Orinoco we arrive at the chief port on the river. This is *Ciudad Bolívar*, named after the famous Simon Bolívar, the South American patriot who helped to free more than one South American country from Spanish misrule, and whose statue is to be found in many of the large towns of the northern half of the

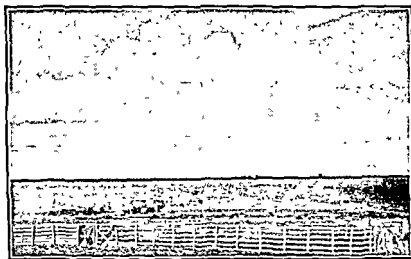


Photo by E.N.A.

FIG. 10.—A CATTLE RANCH OF THE LLANOS.

continent. Ciudad Bolívar, often called Bolívar, is built upon a hill overlooking the Orinoco. It is the most convenient collecting centre for the hides and beef from the cattle lands of the Llanos, and the rubber, tonka beans and feathers of the forests.

Beyond Bolívar steamers cannot always go with safety, because in the dry season (November to March) the river shrinks and becomes very shallow in places. But in the rainy season, from April to October, steamers can get much farther inland.

The cattlemen live most of their lives on horseback in the open air, with the cattle. Their families live in the small mud huts near the large farms, where the owners of the cattle have their homes. Beef is their chief food ; with sometimes flat cakes of maize flour or *farinha* cooked in the ashes. They are skilled at skinning cattle and salting hides and beef. The salt comes from the northern seashore beyond the northern mountains. It is brought in bags on the backs of mules, which take back in exchange bundles of dried and salted hides or loads of beef which has been dried in the hot sun and salted to keep it good.

Nowadays fine cattle from England are being brought to the Llanos, and in time the cattle reared there will be much more valuable, both for their hides and their beef, than many of the Llanos cattle are at present.

People of the Venezuelan forests gather rubber from wild rubber trees much in the same way as the Amazon rubber-gatherers. They also get tough rubbery gum from another kind of tree. This gum is called *balata*. Unfortunately, many of the *balata*-gatherers cut down the trees and collect the sap at their leisure ; and if this goes on, *balata* will become scarcer and scarcer.

The forest dwellers live in the flimsiest of huts. As long as they have a thick thatch to keep out the hot sun and the heavy summer rains, these Indians do not bother much about walls and furniture. They sleep and rest in hammocks made of woven grasses or creeping vines ; and wherever they go—even on the river steamers—they take their hammocks with them,

for such beds are easily rolled up and carried from place to place.

So far we have not considered the part of Venezuela where most people live. The Llanos are very thinly populated, like most great cattle lands, for a few men can look after a large number of cattle, and cattle need plenty of room for grazing. The Equatorial forests support even fewer people. The most thickly populated part of Venezuela is in the north, on the highlands—not on the mountain-tops, which are too bleak and cold, but in the high valleys and on the plateaus (see Fig. 41).

Why is this? Notice how near Venezuela is to the Equator; it is a hot land, with its coolest parts in the north, where the heat is less because it is farther north, because it consists of highlands, and because it is near the sea. Try to remember that the temperature falls 1° F. for every 300 feet (approximately) of ascent.

Caracas, the capital of Venezuela, is in a valley about 3,000 feet above sea-level, and is sheltered on every side by mountains (Fig. 11). To get out of the city one must travel up zigzag roads to get over the hills.

Caracas is a beautiful old city founded by the Spaniards in the sixteenth century. It has large open *plazas*, or squares, avenues of shady trees, some splendid buildings, fine shops and beautiful gardens. Electric cars bring people to the city from their pleasant houses on the hillsides, where sugar-cane and cacao grow on the lower slopes and coffee at somewhat higher levels. Venezuela is one of South America's chief coffee-growing countries. Fruit orchards, groves of oranges

and lemons, and irrigated gardens are also common in this splendid climate. Here and there people work in factories, and help to make paper, soap and candles, to weave cloth, and manufacture cement for use in building. But most of the dwellers on the northern

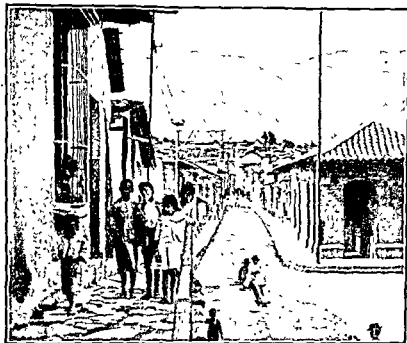


Photo by E.A.A.

FIG. 11.—A TYPICAL STREET IN CARACAS.

Notice (a) the window on the left, (b) the hilly character of the land, (c) the children, (d) the houses, (e) that the street is lit by electricity

highlands and on the coastlands work on plantations or fruit-farms.

A zigzag railway leads down the steep slope to the port of *La Guaira*, where ships load sugar, cocoa beans, coffee, hides and fruits.

In the north-west, near the shores of the great lagoon

of Maracaibo, men have bored numbers of oil-wells, from which petroleum is got and sent away to America and Europe in tank steamers. There are places also where asphalt (which is used for street paving and other purposes) is got from the ground ; for asphalt and petroleum are often found in the same region.

The British island of *Trinidad*, which lies off the north-east coast of Venezuela, has petroleum-wells too, and a famous Pitch Lake, from which asphalt is dug in large quantities.

QUESTIONS AND EXERCISES

- (1) Tell the story of Sir Walter Raleigh's journeys up the Orinoco. Note the direction of the winds mentioned by Raleigh (see page 32). What are these winds ?
- (2) Explain why people of the southern part of the Orinoco basin get their living in quite different ways from those followed by dwellers in the northern part of the basin.
- (3) In which part of Venezuela do most people live ? Why ? How do they get a living ?
- (4) At what time of the year can steamers go farthest up the Orinoco ? Why ?
- (5) What are *balata* and *tonka beans*, and how are they useful to man ?
- (6) If the temperature at the foot of a mountain 6,500 feet high is 60° F., state roughly what the temperature will be at the top.
- (7) Consult your atlas and draw a map to show that the River Cassiquiare joins the Rio Negro to the Orinoco. What is there unusual about this ?

- - - THE GUIANAS - - -

EVERYBODY has enjoyed reading tales of adventure "on the Spanish Main." "Main" here means "the sea," and the Spanish Main was the sea that washed the shores of those parts of Central and South America discovered and conquered by the Spaniards in the fifteenth and sixteenth centuries.

To-day most of these lands are independent republics, freed from Spanish rule by patriots like Simon Bolívar, of whom we read on page 34.

One of these republics, Venezuela, we have already visited. The others are Colombia, Ecuador, Peru and Bolivia, which lie on the north-western side of the continent, and on both sides of the Equator, which passes through the middle of Ecuador and gives it its name.

Besides these republics, there are other lands which were once "Lands of the Spanish Main"; and these are the Guianas—British, Dutch and French possessions lying to the north of Brazil and facing the Atlantic. Of these, British Guiana is the largest and the most prosperous.

Let us visit *British Guiana* first. Dutch and French Guiana are much like it, for all three have hot coast-lands where sugar and cacao, coffee and spices, rubber and tropical timber are found; where white men live and work on their plantations helped by negroes and Asiatic Indians; and where South American Indians

live in the thick forests farther in the interior. Beyond these all three have also high plateaus—parts of the Guiana Highlands—from which long rivers run down to the ocean (Fig. 12).

Georgetown is the capital and chief port of British Guiana. It is built on such low flat land that all we see of it when approaching by steamer is a belt of

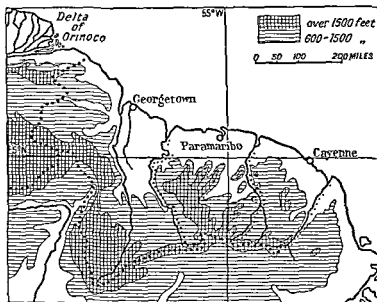


FIG. 12.—MAP OF THE GUIANAS.

See Exercise 4 at the end of this chapter.

trees, and not until we enter its river mouth, "the Demerara," can we catch glimpses of its white buildings and its two cathedrals. The name Demerara reminds us of sugar, and sugar is Georgetown's chief business. The wharves and barges are full of it—bags and barrels of rich brown sugar and molasses made from the cane grown on the Guiana plantations.

Side by side with the sugar are bags of cocoa beans, coffee, coco-nuts and rice ; bunches of bananas, baskets of tropical fruits, bags of spices and big logs of valuable timber.

Along the coastlands are the sugar plantations and

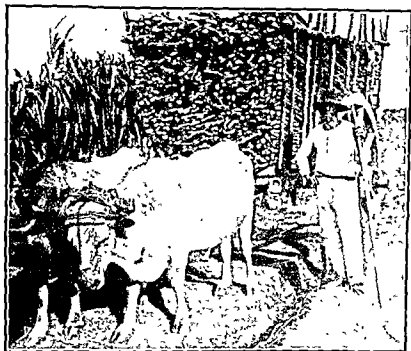


Photo by Tropical Press

FIG. 13.—TRANSPORTING SUGAR-CANES TO THE GRINDING MILL.

Notice the cut canes on the wagon and the growing canes on the left.

the ricefields, in which work the negroes and Asiatic Indians we have seen crowding the market in Georgetown. It is here that most of the people live. If we visit a sugar plantation we shall see whole villages of huts and small houses in which the workers live, for many of the plantations employ two or three thousands of them.

Most of the East Indians have come with their families all the way from India to work on the plantations. Many, however, belong to East Indian families who settled there many years ago. That is why in British Guiana one sees so many East Indians in brightly coloured robes and turbans, reminding one of



Photo by E.N.A.

FIG. 14 —ARAWAK INDIANS OF BRITISH GUIANA.

The girls are servants of a British magistrate, and they are preparing their master's dinner. What is he going to eat?

India and Asia. With them they brought their own religions and customs, and even their own merchants and doctors. When they are not at work, they live their lives much as they used to live them in their own land, and hold great religious festivals at certain times of the year.

These East Indians live chiefly on rice, and that is the reason why rice is largely grown on the wet low

coastlands. Enough is grown not only to supply the Asiatics and the white people of the Guianas, but to provide a surplus to send away to other lands.

The negroes, like those of the West Indies and the United States, are the descendants of African slaves brought to South America in the days of the slave trade. They wear European clothes and speak English or Spanish, or perhaps both.

We notice, too, Chinese workers who grow vegetables, run laundries, keep shops and do all kinds of work; and some of the native South American Indians who have come to the coastlands for work, but who seem very wretched and uncomfortable in their European rags.

Most of these South American Indians are far happier in their native forests up the rivers in the little-known interior. The Arawaks, who live a little way inland, are expert wood cutters and clever boatmen; many have regular work cutting down the valuable timber, collecting balata and rubber, and taking goods down to the coast. Farther inland are the Macusi, who use the blow-pipe and tiny poisoned arrows to shoot birds and forest animals, and who are clever hunters and trackers. Their forest homeland is much like the higher parts of the Amazon Selvas.

Many of the Indians, the Chinese and the negroes of British Guiana find work at the gold and the diamond mines which have been opened up by the white men. Much of the gold is got from the river gravels by simple digging and panning. The diamonds too are found in the river gravels and beaches. Work on the gold and diamond fields has to stop during the

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French Guiana has Cayenne, at the mouth of the Cayenne River, for its capital and chief port. Both Dutch and French Guiana contain the same kinds of country and yield the same kinds of products as British Guiana.

QUESTIONS AND EXERCISES

- (1) Make a list of the various peoples to be seen in Georgetown. Why is it that we find so many different races in this tropical land?
- (2) Where do most of the people of the Guianas live? Why are they found there? Why is it that the interior is so little known?
- (3) Draw a map of the three Guianas. Shade the highlands, mark the boundaries, and mark and name the chief rivers and the three capitals.
- (4) Fig. 12 shows the relief of the land by means of contours. What *are* contours? Write down what the contours tell you about the relief of the land in the Guianas, and point out the watershed between the rivers flowing northwards and those flowing to the Amazon. If you find this difficult to do you had better read again Chapter 2 in Book 4 (Junior Series).

- LANDS OF THE HIGH ANDES -

THE Andes form a great system of mountain ranges and high plateaus. Throughout their great length they are so high that their tops are covered with snow throughout the year. If you examine a physical map you will see that three mountain ranges from the

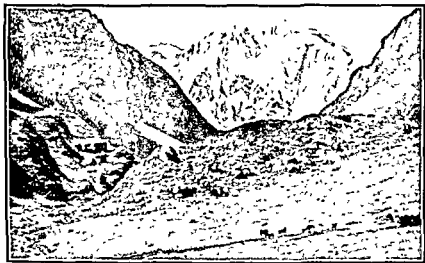


Photo by E.N.A.

FIG. 16.—A VIEW IN THE HIGH ANDES.

The mountain is Mount Salcantay, sometimes called the Andean Jungfrau. The ruins of an ancient Inca city are also shown.

Caribbean Sea meet in Southern Colombia and continue through Ecuador as two ranges bordering a high and narrow plateau. This plateau, which is Ecuador, is over 8,000 feet high, but giant volcanoes, such as *Colopaxi* and *Chimborazo*, raise their heads to a height of $3\frac{1}{2}$ miles.

Southwards, in Peru and Bolivia, the plateau becomes wider and higher. In Bolivia it is about 12,000 feet above sea-level, while some of the highest peaks reach a height of four miles, e.g. Sorata, which overlooks the great Lake Titicaca.

To the south of Bolivia the Andes becomes one giant mountain range, and it is here that we find *Mount Aconcagua*, a great volcanic peak some 23,000 feet high—the highest mountain in the two Americas.

Farther southwards, although they become lower, the Andes remain a very impressive sight right to the southern extremity of the continent.

Now let us turn to the countries of the high plateaus in the northern part of the system.

COLOMBIA

Colombia has coastlands on the Caribbean Sea as well as on the Pacific. On its Caribbean shores are old Spanish towns whose names and balconied houses remind us of the days when Elizabethan sailors harried the Spanish Main. At *Cartagena*, one of Colombia's leading ports, we may still see the very forts whose guns vainly barked defiance to Francis Drake.

Notice the three great Andean ranges which run through Colombia, and to which we have already referred (see Fig. 17). Notice the deep valleys lying between the ranges, and how these open out into wide, hot and unhealthy plains towards the Caribbean Sea. The lower slopes of the mountains and much of the upper valleys are covered with dense tropical forest, as we should expect in such a hot land where rains in summer are very heavy.

In Colombia (as we saw in Venezuela, p. 36) most people live in the highlands, for the deep valleys and the lower slopes are not good places to live in. The capital itself, *Bogotá*, stands on a plateau over 8,000 feet above sea-level, and has therefore a cool and comfortable climate except during the very heavy rains of March, April and May. It is an old Spanish city founded in the sixteenth century. There was a time when it took travellers many days to reach Bogotá from the ports on the Caribbean Sea; but nowadays one can make the journey in less than a day, because most of it is by hydroplane following the Magdalena valley.

Europeans in Colombia are interested chiefly in the large coffee plantations, and in the banana trade. Cotton, sugar, cacao and tobacco, too, are grown, for much of Colombia is very like northern Venezuela. The eastern part of Colombia stretches into the Llanos, and millions of cattle are reared. Many natives find work on the plantations and at the emerald mines, for which Colombia is world famous.

In Colombia there are (1) the hot, wet, tropical shorelands; (2) the hot, wet and very dense tropical forests of the deep valleys and lower mountain slopes; (3) the cooler plateaus where most people live; and (4) the grassy Llanos of the Colombian cattlemen.

ECUADOR

Ecuador is on the Equator, hence its name. We should therefore expect it to be very hot everywhere, until we notice on the map how very mountainous the country is. Here again most people live in the cooler

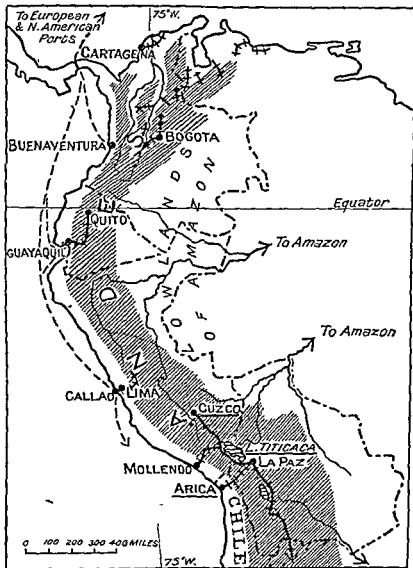


FIG. 17.—MAP OF THE COUNTRIES OF THE HIGH ANDEAN PLATEAUS.

plateau uplands, where the climate is healthier than on the Pacific shores or in the deep valleys.

In Ecuador one can find all kinds of country, from hot, wet, equatorial lowlands to the snowy peaks of the Andes.

Quito, the capital, like *Bogotá* and *Caracas*, is up among the mountains in a high valley 9,500 feet above sea-level ; so that although it is almost on the Equator it has a climate of everlasting spring. A winding railway leads down to the port of *Guayaquil*, where large steamers from Europe and North America call to pick up the cacao grown on the coastal plains and the coffee grown on the cooler highland slopes.

Like Colombia, Ecuador is a land where sugar and cotton, bananas and tobacco grow well. It is the real home of Panama hats, which are made by the Indians from the fan-leaves of a low palm-like tree. The cleverest Panama-hat makers are the Indian women and children.

PERU

South of Ecuador is the republic of *Peru*, where long ago the Incas ruled their happy and prosperous people until the Spaniards came in search of treasure, betrayed and slew the reigning Inca, and brought ruin to his empire.

Peru is in many ways different from the other lands we have read of in this chapter, as we can see from the map. The Andes are farther from the sea in Peru, leaving room for wider, but still narrow, shorelands. The Andes of Peru, too, have wide plateaus between the snowy ranges, where many people live.

On the eastern side of the Andes is part of the great forests of the Selvas. (Remember that the Amazon has its beginnings in the Andes of Peru; read again p. 22.)

So there are three distinct kinds of homeland in



Photo by E.N.A.

FIG. 18.—INCA RUINS.

The picture shows modern Indians dressed for an annual performance of a drama which is enacted amid these ancient ruins.

Peru: (1) the coastlands, which are hot and have little or no rain; (2) the cool plateaus, where the Incas ruled and where to-day most Peruvians live; and (3) the hot, wet forests of the eastern slopes of the Andes and the plains lying at their feet, which have a way out to the Atlantic by the Amazon itself.

The Peruvian coastlands are dry because the winds

are either off-shore winds or parallel to the coast. "The voyager gazes at bare, dead, cloud-topped ranges . . . an endless succession of parched mountain and parched 'desert,' except where a stream from the Andes draws a belt of green across the dry lands, and when irrigation and the hot sun together produce wonderful yields of sugar and cotton." These belts of green along the rivers have been called "little Egypts."

The chief Peruvian port on the Pacific is *Callao*, which is not far by electric tram from *Lima* the capital, whose cathedral was founded by the Spanish conqueror Pizarro in 1535. His bones are still to be seen there in their glass-fronted coffin. Lima is only 500 feet above the sea, but it is much cooler than the coast. A traveller¹ thus describes the city and its surroundings as seen from the hills above it :

"Lima lay before me like a map, in an extensive coastal terrace sloping towards the sea. . . . Across the river on my right was the Mount of San Cristobal with a wireless station on its summit, and more lofty mountains as a background. Straight ahead lay the main part of the city with its many church-spires, and beyond the distant masts and cross-trees in the harbour of Callao. . . . There were hundreds of fields marked off by adobe walls, and green with new vegetation, or brown with last season's cotton plants, or bare soil newly ploughed and furrowed for the irrigation water. In some of the green-walled pastures were herds of sleek cattle ; less fortunate cows and steers were foraging on the steep and nearly barren slopes of the mountain below me."

¹ R. C. Murphy.



The higher parts of the country have many rich high valleys and wide plateaus which are the homes of the Peruvian Indians, whose ancestors were ruled by the Incas. "Indian villages of adobe huts everywhere dot the treeless landscape." These Indians rear flocks of sheep, alpacas and llamas, and herds of cattle; they grow wheat, maize, barley, potatoes and vegetables, and in some of the lower valleys bananas, cassava, and even rice where there is water enough. They spin, weave and dye the wool and hair of their animals, and make the brightly striped ponchos which serve as cloaks, waterproofs, saddle-cloths and even as beds (see Plate 1).

The llama and the alpaca are related to the camel, but are much smaller and have no hump. Male llamas are trained to carry loads up to about 100 lb., and being very sure-footed they are of great value in a land where ordinary means of communications are difficult (see Fig. 19).

In many places on the plateaus of Peru are the ruins of wonderful cities and temples and palaces of the Incas, built without mortar or cement of finely jointed and fitted stones of large size (see Fig. 18). *Cuzco* is the ancient Inca capital.

Among the mountains are rich silver, gold and copper mines. To reach these and the towns in the Peruvian highlands railways have been made from the sea coast to the plateaus among the Andes, the Central Railway of Peru reaching a height of nearly 16,000 feet, i.e. higher than Mont Blanc.

A remarkable lake, Titicaca, lies among the high Andes. Its level is some 12,000 feet above the sea;



Photo by United Press Service

FIG. 19—A PACK TRAIN OF LLAMAS WITH INDIAN DRIVER.

There are many interesting points to notice in this picture. Find some.

yet steamers run regularly between the small towns on its shores. These steamers were brought up from the coast in sections, and put together on the lake side. Lake Titicaca is partly in Peru and partly in the neighbouring republic of Bolivia. Big as it is to-day, it is, nevertheless, far smaller than it was in ancient times.

In the densely forested *montana*, which lies on the eastern slopes of the Andes, and in the forests of the Amazon lowlands, the natives collect rubber, coca and other leaves and roots for drugs, and the bark of the cinchona tree, from which quinine is made.

BOLIVIA

Bolivia and Paraguay are the only countries in South America which have no coast-line. Bolivia used to extend to the Pacific Ocean, but she lost her coastal strip after disputes and wars with her neighbours. She possesses, however, some rights of access to the Pacific across the railways of Chile and Peru.

Bolivian homelands are either (1) on the high plateau, or (2) in the *montana* and Amazon forests. Most of the inhabitants live on the plateau, where their chief occupations resemble those of the Peru plateau. Many follow pastoral occupations, and keep herds of cattle and sheep, llamas and alpacas, which provide them with food and material for making clothing as well as some products for exports.

The mineral wealth of Bolivia is very great. Perhaps the most famous silver mines in history are those of *Potosi*, which have been worked ever since their dis-



Photo by Underwood Press Service.

FIG. 19—A PACK TRAIN OF LLAMAS WITH INDIAN DRIVER.

There are many interesting points to notice in this picture. Find some.

east of Lake Titicaca, in a sheltered hollow in the plateau at a height of about two miles above sea-level. Fig. 42 shows that it has rail communication with both the Pacific and the Atlantic.

QUESTIONS AND EXERCISES

- (1) "The Central Railway of Peru from Callao through Lima to the smelting city of Oroya and on to Huancayo has 65 tunnels, 67 bridges and 16 switchbacks. For miles the track is built on a narrow shelf of rock cut into the precipitous wall of the cañon." Can you explain why all this was necessary?
- (2) Explain why so many people in the Andean republics live in the highlands and on the plateaus.
- (3) Explain why it is that Quito, although almost on the Equator, has a climate somewhat resembling a perpetual English spring.
- (4) Most of the people in Bolivia live over two miles above sea-level. How will this affect them? In what way does it affect the development of mining occupations?
- (5) Draw a map to show the position of Colombia, Ecuador, Peru and Bolivia. Mark their boundaries, shade the highlands, and mark and name their chief cities.
- (6) What do you know of the Incas? What Spanish conqueror overcame them, and why was the conquest extremely easy even for a small invading force?

- THE PLANTERS OF BRAZIL -

BRAZIL is such a large country that it has many different kinds of homelands. We have seen how people live in the Amazon basin (Chapter 2), which covers at least half of Brazil ; and in this chapter we shall read how other Brazilians live and work in the rich lands in the eastern part of the country outside the Amazon basin.

Look at your atlas map of South America and notice that *most of eastern Brazil is highland*. It is really a very old plateau much cut up by rivers, with here and there fairly high ranges of mountains upon it. If we examine the population map (see Fig. 41) we shall discover that the great majority of the Brazilian people live on the coast-lands near the ports, and on the higher lands just at the back of them, where great plantations employ large numbers of men, women and children.

What is Grown on these Plantations ?

Except in the south, Brazil is a tropical land with plenty of rain in the coastal belt, and that leads us to think that tropical plants will be cultivated there. In the hotter and wetter coastal lowlands of the north, cacao and sugar, bananas and cassava are grown, for these lands are in many ways like the coastlands of Venezuela, Colombia and the Guianas. But the most important plantation crop is coffee, for Brazil grows

nearly four-fifths of all the coffee produced in the world (see Fig. 21). Coffee will not grow well where it is too hot and too wet, and therefore the plantations are inland among the hills and on the plateaus, and not on the coast. Cotton grows on inland plantations too.

Brazil's coffee is grown chiefly in the State of São Paulo. The city of *São Paulo* is its capital and the

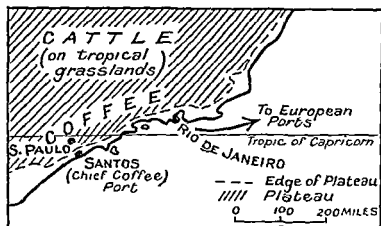


FIG. 21.—MAP OF PART OF EASTERN BRAZIL.

very heart of the coffee business, but if we wish to visit a typical coffee *fazenda* (estate), we must go some distance farther inland north-east of the city. Some fazendas cover 30,000 acres, and have four or five millions of coffee trees. The millions of pounds of coffee berries which they produce are taken to the main railways by the private "coffee lines" belonging to the fazenda.

A large fazenda may employ and feed as many as 5,000 people. Some are Brazilians, some negroes or

Indians, but a large number are immigrants from Spain, Portugal and Italy. Cotton as well as coffee is grown on some parts of the fazenda; while in other parts some thousands of cattle are reared, and maize and wheat are grown, and fruits cultivated in order to support the work-people. On such a fazenda "corn is ground in their own mill, bakery products are made in their own ovens, and meat is slaughtered and sold by their own butcher's shop. A general store sells the needed supplies, schools are maintained for the children, a church holds services, and moving pictures are provided. Lumber is cut in their own sawmill from trees grown on the estate, and this lumber is made into their own wagons, cars and implements. In their harness shop are made the harness and saddlery needed on the plantation; and they have their own shoemakers and tailors."¹

A coffee fazenda in fact is a little homeland in itself, providing everything that is needed for the people who live there, in their own little villages, and work on the plantation. "The owner's house (or the manager's perhaps) is a large two-storied white building. Not far away are rows of bungalows for the employees; barns, corrals for the horses, and large, fenced-in drying grounds for the coffee berries. All around, row after row, as far as the eye can see, are thousands of bushes that soon . . . will lay aside their garment of green to don a mantle of delicate white."

But in a day the coffee flowers and their perfume have gone and the fruits have begun to form. When ready for gathering they are much like red cherries, inside

¹ Whitbeck, *Economic Geography of South America*.

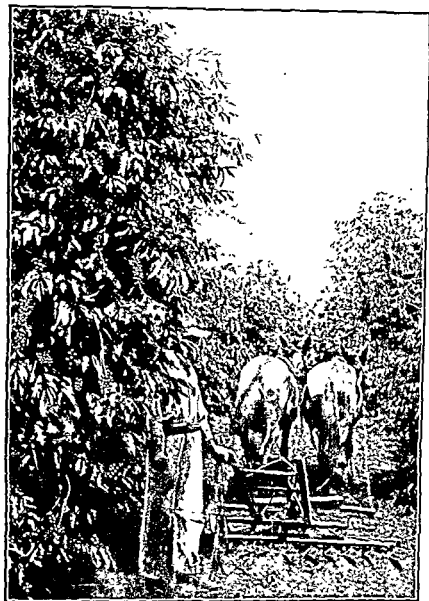


Photo by E.N.A.

FIG. 22.—A TYPICAL COFFEE TREE.

How high is this tree? Find the coffee berries. What work are the mules doing?

whose pulpy flesh are two very hard seeds (or "beans" as they are called) whitish in colour and close together on their flatter sides. These are the "beans" which you have seen—and smelt—roasting at the grocer's shop, or being ground up for coffee. But before

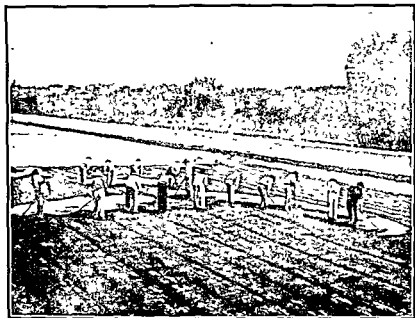


Photo by E.N.A.

FIG. 23.—DRYING COFFEE NEAR SÃO PAULO.

How is the coffee dried? What are the workers doing?

they reach our shops these "beans" must be dried on great open cement floors in the hot sun, while workers stir them over and over day by day to make sure that every part is thoroughly dried (Fig. 23). Afterwards the tough double skins of the "beans" are removed by machinery, and the coffee is ready to be packed in jute bags of 132 lb. each to be sent away.

The chief port of the coffee fazendas is *Santos*, which is conveniently placed for São Paulo, the fine city that is Brazil's chief coffee market. A much larger port shares in this coffee trade; and that is *Rio de Janeiro*, the capital of the United States of Brazil, as Brazil is properly called, for it is made up

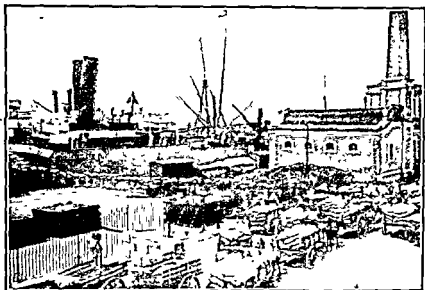


Photo by E.N.A

FIG. 24.—LOADING SACKS OF COFFEE AT SANTOS.

Describe very carefully what is taking place.

of a number of different states of which the state of São Paulo is only one.

What makes this part of Brazil the greatest Coffee-growing Region in the World?

First of all there is the rich red soil which Brazilians call "terra rossa" that is particularly good for coffee. Then there is the climate, which exactly suits it—a

hot, wet growing season to produce a rich crop of berries, and a cooler, drier season in which the crop can be gathered and the seed thoroughly dried in the open air. The hot, wet season is from December to

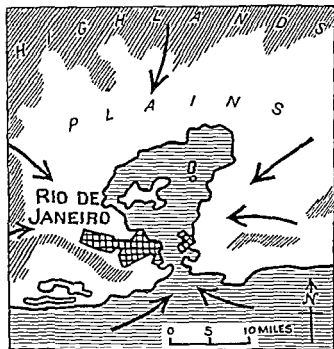


FIG. 25.—MAP TO SHOW THE POSITION OF RIO DE JANEIRO.

The arrows near the land show the direction from which important railways approach the city. Notice that the port has a magnificent sheltered harbour.

February—winter in Britain, but summer in Brazil, for it is in the southern hemisphere.

Twelve million sacks of coffee, they say, are put on board ship each year at Brazilian ports; three-quarters of them are shipped at Santos and nearly all the rest from Rio de Janeiro. Where does this huge amount of coffee go? The greatest coffee drinkers

are the people of the United States. Germans, Belgians, Dutch and the people of the Danube countries come next.

Rio de Janeiro—"River of January"—was so named by a Portuguese voyager in 1501, who saw only the entrance to its magnificent harbour, and thought he had discovered the mouth of a great river like the

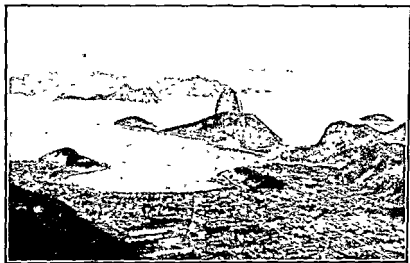


Photo by E. N. A.

FIG. 26.—THE CITY OF RIO DE JANEIRO

The entrance to the harbour is to the right. Notice the famous Sugar Loaf Mountain.

Amazon. The harbour is one of the most beautiful in the world; it is dotted with lovely islands and almost surrounded by wooded mountains. The strange Sugar Loaf Mountain, on the western side of the entrance, is ascended by cable airways, and at night it is brilliantly illuminated (see Fig. 26).

The city has a million and a half inhabitants, and is the second largest in South America. Its white marble

promenade, planted with waving palms, borders the sea. Its wide straight streets intersect at right angles, and are paved with granite from the neighbouring mountains. Its splendid buildings, its beautiful squares and its botanical gardens are world famous. Many of its people live in pleasant villas on the hill slopes that form the suburbs of the city, or in the little seaside villages that fringe the bay.

Like most great ports of to-day, Rio de Janeiro has many factories, the chief of which are cotton-mills that use Brazilian cotton, and jute-mills that make the millions of bags used on the plantations for packing coffee, cacao, sugar and rice.

North of Rio is *Bahia*, another "plantation" port that exports some coffee, and much sugar and tobacco from the plantations behind it, as well as cacao and cotton.

Farther north still is *Pernambuco*, a "plantation" port almost on the great "shoulder" of South America that pushes out into the Atlantic towards Africa. Sugar and cotton are its chief exports; but it also sends away rubber from the *Selvas*, and hides from the cattle country of the grassy campos to the west.

QUESTIONS AND EXERCISES

- (1) What is the best way to travel to Rio de Janeiro from Britain? What famous steamship company runs regular services to Brazil? How long does the voyage take?
- (2) Shops in Rio de Janeiro and other large Brazilian towns sell things decorated with butterflies' wings, and wonderful brooches and necklaces of brilliantly coloured beetles. Can you explain this?
- (3) Jute bags are commonly used for packing Brazil's planta-

tion products. What is jute, and from what part of the British Empire does most of it come? What Brazilian products are exported in jute bags?

- (4) Make a map of Brazil, marking clearly (a) the Selvas, (b) the Campos, (c) the areas where coffee, cotton and sugar are planted. Mark and name the chief ports.
- (5) What is the chief language spoken in Brazil? Give reasons.
- (6) Look at a large-scale map of the coast of eastern Brazil and make a list of all the names, in order, that appear to be connected with saints and saints' days (e.g. Cape de S. Roque, Rio de S. Francisco, Bahia de Todos os Santos). Find out the particular date of each saint (e.g. Bahia de Todos os Santos = All Saints' Bay, and All Saints' Day is 1st November), and you will reconstruct Amerigo Vespucci's great voyage along the Brazilian coast.

- THE PLATE RIVER LOWLANDS -

THE largest grasslands in South America are the pampas of Argentina, Uruguay and south-eastern Brazil. These grasslands are in temperate regions, and are therefore different from the llanos about which we read in Chapter 3. The people in the pampas, then, have a different homeland, and live in different ways from the dwellers in the llanos.

Find on the atlas map the great wide estuary of the Plate River, or Rio de la Plata as the Spanish-speaking people of Argentina call it. The pampas country stretches in a broad sweep behind this deep estuary, which is really the wide mouth of the Paraguay, Parana and Uruguay rivers and their tributaries.

Notice on this broad estuary *Buenos Aires*, the capital of Argentina and the largest city in the Southern Hemisphere, and *Montevideo*, the capital of Uruguay. Both these cities, and other towns on the Plate River, have grown up there because of the great grasslands of the pampas, where millions of sheep and cattle are reared, and where the rich soil yields amazing harvests of grain.

Nearer the sea the pampas country has a fair amount of rain, especially in summer, but farther inland there is much less rain, the country becoming drier and drier as one approaches the Andes. Grain, fruits and other crops grow best in the eastern half of the pampas country. In the western half, except

in places where crops and fruits are grown by means of irrigation, as at *Mendoza* on the Trans-Andean Railway, the land is fit only for rearing sheep and cattle, goats and horses (see Fig. 27).

When the Spaniards first came to the pampas in

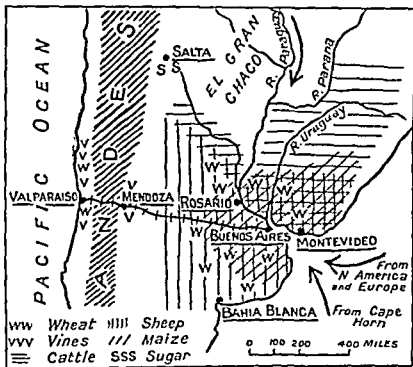


FIG. 27.—MAP OF ARGENTINA.

Notice the distribution of the various products. Compare this with Figs 41 and 42.

the sixteenth century, they found there a great "ocean of waving grasses, which in some parts reared its silvery plumes to a height of 8 or 9 feet"; or wide stretches of "coarse grasses 3 or 4 feet high, growing in large tussocks and all the year round of a deep green";

or "drier country where the grasses were thinner and poorer, and where spring brought out myriads of flowers."

Over these wide grasslands roamed herds of deer, guanaco and other wild animals, caught by the natives by means of the *bolas*—"two- or three-tailed thongs of leather knotted in the centre, and with two or three stone balls fastened to the two or three ends. The *bolas*, thrown with a great force and skill, wrap round and round the legs of the animals and entangle their feet so that they fall." These animals, however, have now retreated to the far west, where they are still hunted with the *bolas* as well as with the rifle.

The Spaniards brought horses, sheep and goats and cattle, which thrived amazingly on these great natural grasslands and ran wild, to be hunted down in thousands by the Spanish settlers and their native followers. In later times, however, great cattle and sheep farms were made on the pampas, lands were fenced in, and animals branded with the marks of their owners, and properly tended by Indians and Gauchos in the service of their Spanish masters.

To-day "this ocean of level land stretches from horizon to horizon, flecked by plantations of trees, homesteads, sheds, windmill pumps, and the humble mud dwellings of the workers; dotted thickly with grazing sheep, cattle and horses, or chequered with broad areas of wheat, maize, linseed and alfalfa."¹

As we cross Argentina by the great railway that runs from Buenos Aires across the pampas, over the high Andes by tunnels and passes 12,000 feet above

¹ W. H. Koebel.

sea-level, and down the steep Pacific slope to Valparaíso, we catch glimpses of some of the great *estancias* or farms, some of which cover more than half a million acres.

Each *estancia* is divided by wire fences into large *potreros* or pasture-fields, in which graze cattle, sheep and horses. The stout posts which carry the wire are of quebracho wood, cut in the forests of

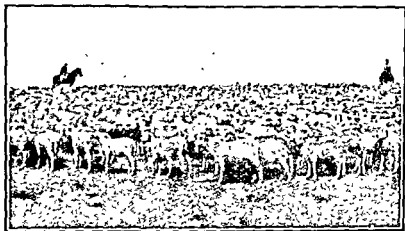


Photo by E.N.A.

FIG. 28.—A FLOCK OF PAMPAS SHEEP.

Argentina is second only to Australia in the amount of mutton produced

the upper Paraguay. "Quebracho" means "axe-breaker." The wood is as hard and as heavy as stone. Roads to the pastures lead from the centre of the *estancia*, where are situated the manager's fine house, surrounded by trees, with corrals and sheds, and adobe huts for the peons or Gauchos not far away. When it is dry these roads are often ankle deep in dust; but in wet weather they are heavy with mud. Each of the great fields has its hut or small mud home

for the peons whose duty it is to look after the fences and the animals.

The Gauchos, natives of the cattle lands, are fearless riders; and though many now dress in much the same way as cattlemen do in North America and Australia, some still wear "the broad flowing trousers tucked into high-heeled boots of light and delicate leather,

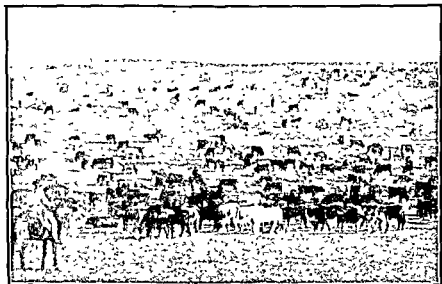


FIG. 29—A PAMPAS HERD OF CATTLE.

Photo by E.N.A.

Compare this with Fig. 10.

the striped woollen *poncho* that serves as a coat, mackintosh, bed or saddle cloth as occasion demands, and the broad-brimmed *sombrero*," which time has long since proved to be the best clothing for the open-air life on the pampas. Many people of Spanish-Indian blood, and even Europeans, now take part in the work of stock-rearing and stock-riding in Argentina and Uruguay.

What becomes of the millions of cattle and sheep reared every year on the pampas? There are many times the number required in South America, so the business of preparing beef and mutton for shipment to Europe and other parts of the world has become one of the greatest in the world. Hundreds of shiploads leave the Plate River ports every year.

The animals come by road or by rail to great factories called *frigorificos*, where they are painlessly killed, skinned and prepared for export as frozen or chilled meat. This meat is stored in special chambers on the meat-ships, and kept cool by special freezing apparatus all the way to Europe. Some meat is cooked and sealed down in airtight tins or in glass containers; some is made into meat extracts like Oxo, Bovril and Lemco.

There are huge exports, too, of hides and hair, glue and bristles, animal fats, and wool and sheep skins from the ports of the Plate River. The wealth thus gathered from the pampas has largely helped to build up the great cities of the Plate River, whose shops and theatres are among the most expensive in the world.

Patagonia, which lies south of the pampas, once considered a waste and desert land, has now great sheep farms, which send their animals to numbers of frigorificos at the smaller southern ports of Argentina and Chile.

Eastern Argentina and Uruguay have enormously rich grain lands—maize growing in the warmer and wetter parts, and wheat where the climate is not so warm and not so wet. The wheat harvest comes in

January, when winter reigns in the wheatlands of the northern hemisphere ; so we can get new wheat from Argentina by sea when our own fields are bare.

Northern Argentina, in the upper basin of the Paraguay River, is much hotter. Parts of it are densely forested and are still little known. Other parts are

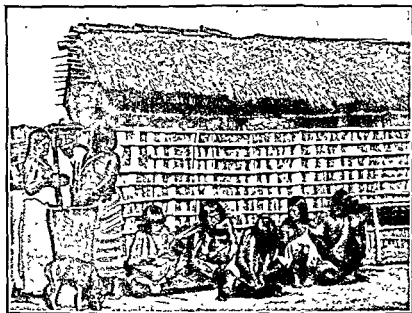


Photo by E.N.A.

FIG. 30.—INDIANS OF THE LITTLE-KNOWN GRAN CHACO.

What are the women on the left doing ? Compare with Fig. 105.

wide marshlands ; others, like the *Gran Chaco* (= great hunting ground), are regions " of timber and open glades, with a little agriculture but little live-stock, growing good cotton, oranges, maize and tropical products." In the far north-west, especially near *Tucuman*, much sugar-cane is grown.

Buenos Aires, with its three million inhabitants, is

the capital of Argentina and the largest city in the world south of the Equator. Its name means "good airs," and is said to have been given it by the Spaniards, who found it a pleasant place to live in. Its wide

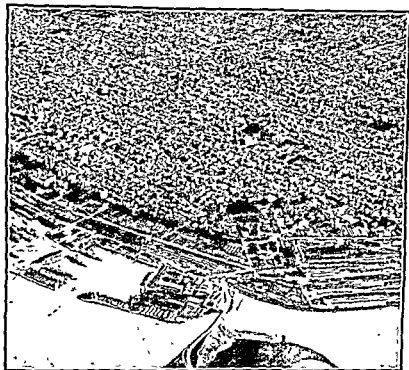


Photo by E.N.A.

FIG. 31.—AERIAL VIEW OF PART OF BUENOS AIRES.

Past the docks and grain elevators of Buenos Aires many thousands of European immigrants have entered to plough the pampas and to rear cattle and sheep. Notice the dense mass of buildings and streets.

streets and squares are arranged on the chess-board plan, most of them running at right angles to one another. Its splendid buildings, its beautiful *plazas* or squares, its fine parks, and its magnificent shops, theatres, museums, libraries and picture galleries have

made it one of the most wonderful cities in the world. Ships of all seafaring nations crowd its docks and basins. It has at least six great railway terminals, for all the main railways of Argentina meet at Buenos Aires (see Figs. 27 and 42).

Montevideo, the capital of Uruguay, is situated on the north side of the Plate estuary.

Tucked away to the east of the Gran Chaco lies the small country of *Paraguay*, where cattle-rearing is the principal industry. This little country suffered from disastrous wars in the past. From 1865 to 1870 Paraguay fought the combined forces of Brazil, Uruguay and Argentina. Before this war the population was 1,400,000. At the end it was 220,000, of whom less than 20,000 were males over fifteen years of age! Its capital, *Asuncion*, is reached in about fifty hours by rail from Buenos Aires. The journey by river takes five days.

QUESTIONS AND EXERCISES

- (1) Make a map to show the great rivers flowing into the Plate estuary. Mark Buenos Aires and Montevideo. Show the main railway from Buenos Aires across the pampas and the Andes to Valparaiso.
- (2) Make a map to show where cattle and sheep are chiefly reared on the Plate River lands. Write a note beneath the map explaining why so many of these animals are reared there.
- (3) Many people in Argentina and Paraguay drink *maté* instead of tea. What is *maté*? How is it usually prepared? Where is it grown?
- (4) "Ostriches or *rhea* birds are shot by *estancieros* for the

protection of crops " in Argentina. What is the rhea ?
What is an estanciero ? Why is this bird shot ?

- (5) "Bahia Blanca is a great wheat port." What buildings would you expect to see near its harbour, and why ?
Where is the wheat grown, and whither is it sent by sea ?
- (6) What do the names Argentina and Rio de la Plata mean ?
Why were they given these names ? How did Patagonia get its name ?
- (7) Explain : bolas, estancia, potreros, frigorificos, plazas, sombrero, Gran Chaco. To what language do these names belong ?

down, fed by the mountain snows. The worst part of it is the *Atacama Desert*.

All this northern region is dry because the winds are off-shore winds and can bring no moisture from the sea. Yet strangely enough it is the home of many people, as you can see if you look at the string of ports along its coast-line.

South of this very dry Chilean land is a region that has sunny skies; long, hot, dry summers, and mild winters with refreshing rains brought by the winter winds from the Pacific. Little or no rain falls there in summer, because then the winds are land winds and not sea winds. This part of Chile has a climate very like that of the Mediterranean lands of southern Europe.

Farther south still, in southern Chile, is yet another different kind of country, with deep inlets and many islands, over which moist and strong west winds from the Pacific are blowing nearly all the year round. This country is wet, and therefore has a thick forest covering of trees which are like those of our own islands in the lower parts, and mainly conifers in the higher parts.

How do the inhabitants of these three very different homelands live?

The best way to answer this question is to take a long journey by train on the railway that runs from the very north of Chile to a station in the south where the broken coast-line begins.

But first of all let us understand who the Chileans are. The chief language spoken in Chile is Spanish, for Spanish conquerors came from Peru in the sixteenth

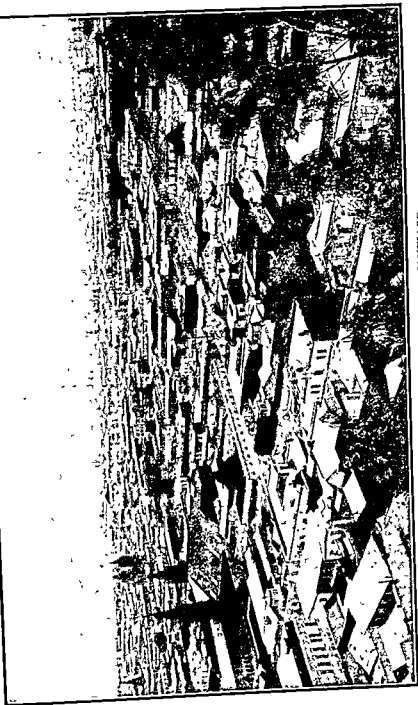


FIG. 33 —A BIRD'S-EYE VIEW OF SANTIAGO.

century, and made themselves masters of the land. The city of Valdivia is named after one of the greatest of these Spanish colonisers (Pedro de Valdivia), who also founded *Valparaíso*, Chile's chief port. *Santiago*, Chile's beautiful capital, was founded by Spaniards in 1541.

The Spaniards did not find the land uninhabited;

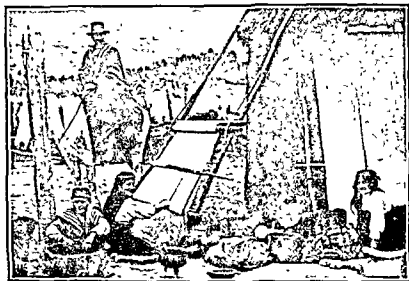


FIG 34.—ARAUCANIAN INDIANS.

Describe this picture very carefully.

they often had to fight their way almost inch by inch against brave native tribes who, like most of the natives of the new world, were known to Europeans as "Indians." Many thousands of native Indians still remain, especially in the southern half of Chile. One hundred thousand of them live not far from Valdivia, and are known as the Araucanian Indians. They call themselves "Mapuches," which means "the people of

the land." They are proud and strong. "They live in huts with thatched roofs. Mothers carry their babes in slings on their backs in the Indian way. . . . They hold strange dances on festal days. Their ailments are treated by medicine women, who carry drums and rattles to frighten evil spirits, and offer sheep's blood to their gods." But these old customs are fast dying out.

Many Chileans are of mixed Spanish and Indian descent, and some of these have the best qualities of both races. The upper classes, however, are of Spanish blood.

Now for our long railway journey from north to south through Chile.

We start in the desert country of the north, travelling in a comfortable train, which has sleeping cars and dining-cars; and it will take us four days to go from *Iquique* in the north to *Santiago*, the capital.

We soon discover why there are so many ports along the coast of this dry, barren, northern land of Chile. *Iquique*, where we start, has ships loading bags of "nitrates"—rich fertilisers for the farms of the United States and Europe, all of which is got from the desert. South of *Iquique* are other ports, where ships are loading the same kind of cargo. *Antofagasta* is one of the biggest. Its water comes to it in long pipes from the mountains over two hundred miles away, for rain rarely falls. Yet fifty thousand people live in *Antofagasta*, which has fine public gardens and houses surrounded by fruit trees

and climbing vines ! Its mean annual rainfall is less than one-tenth of an inch !"

Farther back in the desert are the *oficinas*, or factories, where the magic fertiliser, that makes crops grow abundantly wherever it is used, is prepared. They are great ranges of buildings to which the *caliche* or nitrate rock is brought to be crushed, boiled in water, and then dried out as fine powder to be

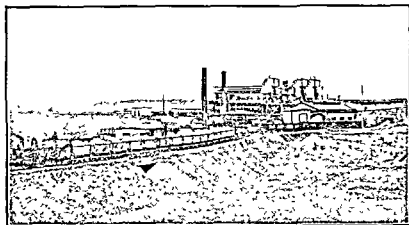


Photo by E.N.A.

FIG 35.—GENERAL VIEW OF A TYPICAL NITRATE WORKS.

See also Fig 4.

packed in jute bags from India, and shipped all over the world. Some of these desert settlements contain two or three thousand workers and their families. Besides workmen's dwellings, large factories have their own railway station, workshops, hospitals, offices, general stores and shops, theatre, social hall, playgrounds and gymnasiums, and even swimming baths—in spite of the scarcity of water. The nitrate labourers are mostly Chilean *rotos* or working men, with a few

Bolivians and Peruvians. Chile has never used African slaves or Asiatic coolies. "

To the east of the nitrate country are rich copper mines and some iron mines, while back of all stand the high Andes. Here roam the guanaco and vicuna, "the wild cousins of the domesticated llama and alpaca"; and here the mighty condor spreads its wings poised aloft in thin air. The little chinchilla, whose valuable fur coat has caused him to be eagerly hunted, lives there too, not only wild, but on chinchilla farms!

We continue our journey southward from the dry northern mineral region of Chile to the rich farming land of middle Chile, the most fertile part of which is the famous "Central Valley," which lies between the Andes and the low coast range.

This region has dry summers and rainy winters. Water is supplied to the fields and vineyards during the summer by irrigation channels leading from the short rivers which come down from the Andes. Here are large farms employing many workers, most of whom are Indian peons whose ancestors have worked for many generations on that very soil for the same great Chilean families of land owners. Wheat, maize, vegetables and fruits are grown. This Central Valley is a good land for citrus fruits: wine is made from the grapes, and fruits of many kinds are dried for export.

In this part of Chile we find *Santiago* the capital, and *Valparaiso* the chief port (Figs. 33 and 36). *Valparaiso* is partly built on low land by the sea, and partly on steep hills where most of the homes are. Sloping lifts connect the sea-shore streets with those on the hill

slopes. The harbour used to be very dangerous when it was merely an open roadstead, but a mole has been built to shelter it from severe storms, known as the "northers."

The last section of our journey takes us to the southern and wettest part of the country, past *Concepcion*, Chile's third city, to *Puerto Montt*, the terminus, which is situated where the coast breaks up

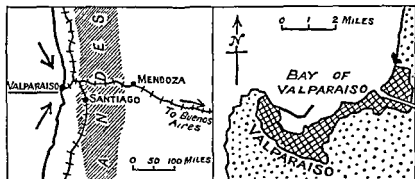


FIG. 36—MAPS TO SHOW THE POSITION OF VALPARAISO.

What does each of these maps show that the other cannot? Why is it useful to have both?

into multitudes of inlets and islands. Here great forests come down to the sea, and saw-mills and lumbermen are common sights. If we wish we can go still farther south by coasting steamers. In the far south there is much more grass-land than forest, and large numbers of sheep are reared, even in the little-known *Tierra del Fuego*. The chief port and wireless station in the far south is *Punta Arenas*, or *Magellanes* as it is now called.

QUESTIONS AND EXERCISES

- (1) Explain these statements: (a) "In northern Chile people long for rain; but in southern Chile they long for the

sun"; (b) "The harvest of the desert ensures the harvest of the world's fields."

- (2) "Southern Chile has many freezing plants, especially in the Punta Arenas region." What is a freezing plant? Why are there several in Punta Arenas (Magellanes)? Find out from the map of the world if there is any town farther south than Punta Arenas.
- (3) How do people get a living in the country round about Santiago? What is their seaport?
- (4) What is the quickest way from Valparaiso on the Pacific to Buenos Aires on the Plate River? Draw a sketch map to show it clearly.
- (5) Draw a map to show the three divisions of Chile and mark and name the chief towns.
- (6) Examine the *frontispiece* to this book. Don't you think this was a very fine thing for Chile and Argentina to do?

- - LOOKING BACK AT - -
- - SOUTH AMERICA - -

Now that we have seen how people live in the different parts of South America, let us look at the continent as a whole.

South America has *three great highlands* and *three great river basins* (see Fig. 37).

The *Andes* stretch like a backbone from north to south along the western side of the continent ; and on the eastern side are the two old tablelands of the *Guiana Highlands* and the *Brazilian Highlands*, which are separated from each other by the wide valley of the Amazon.

The three great river basins are those of the *Orinoco*, the *Amazon* and the *Plate River*. The Amazon basin is by far the largest, but the least important as the home of man. The Plate River basin is by far the most densely populated of the three ; it has the closest network of railways and the greatest number of towns and large cities (see Figs. 41 and 42).

Now turn to Fig. 38, which shows the distribution of temperature in January and July, the typical winter and summer months respectively. Notice what a large part of South America is always hot. Only the southern part, which is outside the Tropics, has a temperate climate. But this temperate part of South America is more important than all the rest, because it contains the lands where most people live.

Now look at Fig. 39, which shows how much rain falls in the various parts of South America and when the rain falls. The arrows show the directions of the

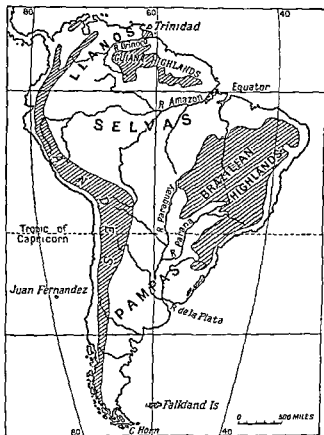


FIG. 37.—THE PHYSICAL DIVISION OF SOUTH AMERICA.

great winds that blow in different parts of South America. Notice that where the winds are "on-shore" winds (blowing from sea to land) the shores to which the arrows point are generally regions of heavy rain. But where winds are "off-shore" (blow-

ing from land to sea), or parallel to the coast, we find lands of little or no rain. Remember especially the great steady trade winds (south-east trades and north-east trades) of the tropical regions, and the strong westerlies which blow towards the shores of southern Chile.

The map on page 92 shows the chief types of natural

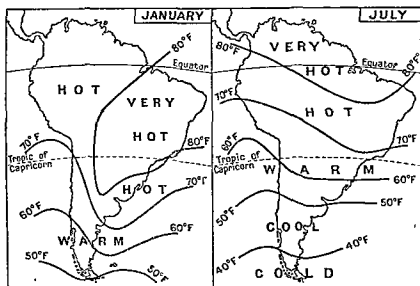


FIG. 38.—TEMPERATURE MAPS OF SOUTH AMERICA.

vegetation found in South America. Remember, as you look at it, that in some places the people have destroyed the natural vegetation in making homes there and in carrying on their work. For example, in the eastern pampas country, the natural grasslands have long since been ploughed up for wheat fields, maize fields, fruit orchards and gardens; and parts of the selvas and the hot, wet forests of the tropical eastern shorelands of South America have been cut

up and turned into cotton, sugar, cacao, rubber, coffee and other plantations.

Now look at the Natural Vegetation and the Rainfall maps together (Figs. 39 and 40) and notice that (1) lands of very heavy rain are usually forested; (2) lands of little or no rain are deserts; and (3) lands of

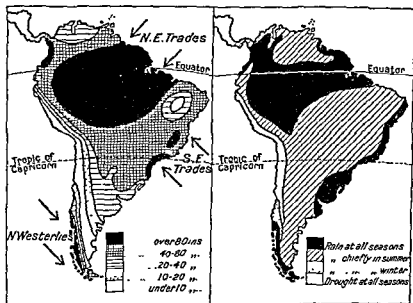


FIG. 39.—RAINFALL MAPS OF SOUTH AMERICA.

The map on the left shows the mean annual rainfall, and that on the right the seasonal distribution of the rainfall.

moderate summer rainfall are grasslands. You will also notice that there are both equatorial and temperate forests, as well as tropical and temperate grasslands. We know, of course, from what we have learned, that the selvas are very different from the forests of southern Chile, and that the llanos are different from the pampas.

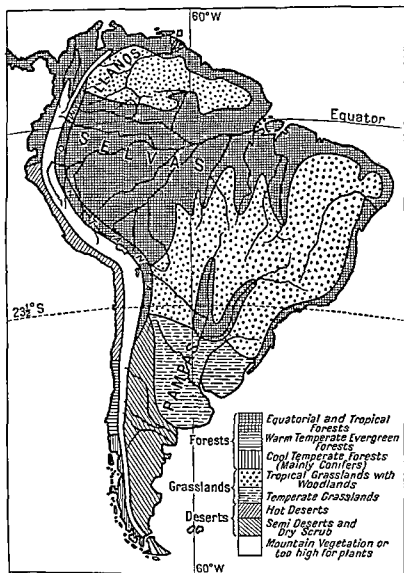


FIG. 40.—THE DISTRIBUTION OF NATURAL VEGETATION.
Compare this with Figs. 37-39.

The next map (p. 94) shows the distribution of the people who live in South America. If we compare it with the other maps given in this chapter, we should have little difficulty in understanding it.

Notice how certain parts of Argentina, Brazil and Chile (the "A B C of South America") stand out as important homelands where many people live. These, of course, are the countries of temperate South America, and it is naturally there that we find most of the people of European descent.

European people, however, also live in the hot lands of South America, but usually in the higher parts where the air is cooler. We saw examples of this in Venezuela, Colombia and Peru. The European peoples of South America are chiefly south Europeans—Spaniards and Portuguese—many of whom are descendants of the Spaniards and Portuguese who settled in South America in the sixteenth and seventeenth centuries. Other European peoples live there too; British Guiana and the Falkland Islands have British people as well as others, and some Britishers have settled in Argentina, Brazil and Chile. Large numbers of Germans and Italians have made homes for themselves in southern Brazil and the River Plate lands.

Some of the real natives of South America—all of them known as South American "Indians," although not Indians at all—still live as savages in the dense forests of the Amazon, or as farmers and herdsmen on the plateaus of Peru, or as fishermen among the islands and inlets of southern Chile, much as their forefathers did before the coming of the Spaniards and the Portuguese. Many other South American natives,

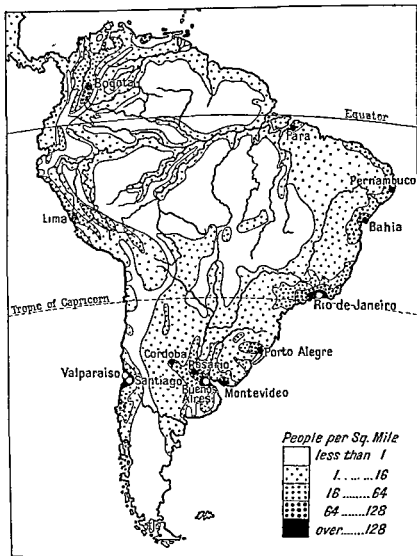


FIG. 41.—THE DISTRIBUTION OF THE POPULATION.

Compare this with Figs. 37-40.

however, work for European masters in forests, and on farms and plantations; and some no longer live as their forefathers did, but eat white men's food and wear white men's clothes. Some tribes of natives have died out altogether since the coming of the Europeans.

South America, indeed, has peoples of all kinds, from the wildest savages of the hot, wet forests, who still kill and eat their enemies, smoke and preserve the heads of their foes, and worship evil spirits, to the highly civilised peoples of great cities like Buenos Aires, Rio de Janeiro and Valparaiso.

This is largely because the continent has many different kinds of home-lands, each with its own climate and its own ways of getting a living—some among the mountains, others in the plains; some covered with dense forest, some with wide stretches of natural grassland and some even desert; some in very hot, wet lands, some in very dry lands and some in temperate lands that are not too wet nor too dry.

Some parts of South America will never have many people living in them; for some, like the selvas, are too hot and too wet and too thickly covered with forest and jungle; some are too dry, like the Atacama Desert and the Shingle Desert of Patagonia; some are too high and therefore too cold, like the snowy wastes of the high Andes; and others are too low and too damp, like the lowlands of the Orinoco and Amazon deltas.

But some parts of South America will in time have many more people living in them than they have now; and these are lands such as Argentina and southern Brazil and Chile, which are suitable as the

homes of Europeans—lands which are neither too hot nor too cold, nor too wet nor too dry.

Here is another map that is partly explained by the population map which we have just been studying (Fig. 42). Where ought we to expect most railways? Do we find them there?

Do we find any railways marked on this map in unexpected places? Why are they there?

Now amuse yourselves by finding the way by rail between the following places:

- (1) Buenos Aires and Valparaiso.
- (2) Buenos Aires and La Paz.
- (3) Valparaiso and Iquique.
- (4) Antofagasta and La Paz.
- (5) Rio de Janeiro and Montevideo.

Several short lines connect places on the coasts of South America with towns some distance in the interior. Find examples of these from the map. Railways that have to climb steep slopes, as have most of these, are equipped with special engines and rails, which enable trains to be drawn up without any risk of slipping back to disaster if the engine and the brakes should fail.

South America has many other ways of sending goods from place to place. In Chapter 4 we read how hydroplanes are used in Colombia and on the Amazon; Brazil and Argentina have good motor roads, on which run some of the most expensive and powerful cars in the world. Other ways are not quite so up-to-date. In the dark forest paths of the selvas, South American Indians carry loads on their backs; along the water-

ways they move their loads either in dug-out canoes made from tree-trunks or on rafts made by fastening

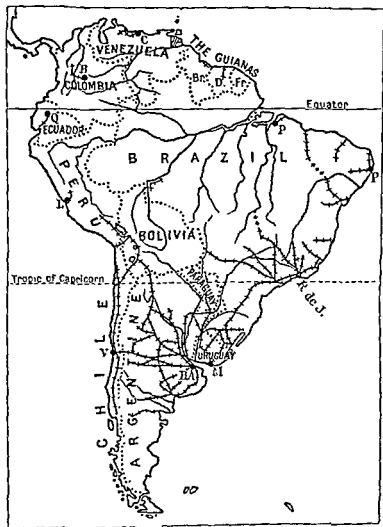


FIG. 42.—THE COUNTRIES AND RAILWAYS OF SOUTH AMERICA.

logs together by means of the tough *lianas* or creepers from the forests.

In many parts of the high Andes the only way of carrying goods from place to place is by packing them in the flat saddle-bags of the llamas, long lines of which are often seen winding their way down the steep narrow mountain paths. These llama "trains," as they are called, remind us of the camel caravans of the Sahara. In some ways the llama itself is not unlike the camel, especially in its head and long neck. Indeed, it belongs to the same family of animals as the camel.

Over the distant pampas, far from railways, the horse is the only means of covering long distances; everybody rides—even the poorest—for horses are many and cheap. Goods are often carried in great high-wheeled wagons something like the prairie "schooners" used by the early settlers on the prairies of North America.

We must now leave South America and take up the study of Africa, the Dark Continent.

QUESTIONS AND EXERCISES

- (1) What are the chief differences between (a) the Pampas and the Llanos, (b) the Selvas and the forests of southern Chile, (c) the Atacama Desert and the dry lands of Patagonia.
- (2) "Most of the people of South America live near to the sea." Comment on the statement, making use of Fig. 41.
- (3) Make a map of South America to show the parts where Europeans are chiefly found. Mark the Equator and the Tropic of Capricorn on your map. Explain your map in writing.
- (4) Explain why the Plate River lands are more thickly populated than the Amazon lands.

- (5) Make a map which shows the parts of the continent where Spanish is the chief language and those where Portuguese is spoken. How do you account for this distribution?
- (6) Where are the Falkland Islands? How do their people get their living? What is the chief town?
- (7) What is the quickest way from Buenos Aires to Lima? Illustrate your answer by means of a sketch map.

- THE HOMELANDS OF AFRICA -

AFRICA is a much larger continent than South America, and lies in a different position with regard to the Equator (see Fig. 1).

In South America the Equator runs through the northern part of the continent, and most of it lies in the southern hemisphere. In Africa the Equator runs practically through the middle, so that the continent stretches about as far north as it does south of the Equator. But owing to the great westward bulge of the left shoulder of Africa the greater part of the continent lies in the northern hemisphere. We place it with the "southern" continents because it lies south of Europe and Asia, which are northern continents.

Find the Tropic of Cancer and the Tropic of Capricorn, and notice how much of Africa lies between them, and is therefore, except where very high, bound to be hot or very hot during most of the year. Now see how much of Africa is outside the Tropics. Even here the land is never *very* cold, for no part of Africa is farther away from the Equator than the Mediterranean shores, to which, as you know, people from western Europe go to spend the *winter* months because even then the climate is *mild* and sunny.

So much of Africa belongs to the hot lands that most of it is far more suitable for the native African than for Europeans. Many Europeans, however, have made

their homes in Africa, especially in the Union of South Africa in southern Africa, and in North-west Africa, both of which are in the cooler parts of the continent.



Photo by E.N.A.

FIG. 43—"I'VE GOT THE CONGO GIGGLES."

The young soloist is supported by a solemn quartet of Central African playmates. These jolly looking boys live in homes like those shown in Fig. 64.

Europeans, too, have settled in Rhodesia and in East Africa—some, indeed, quite near the Equator or even on it—because in these parts there are high plateaus which are much cooler and healthier than the lowlands.

Do not forget that the temperature falls 1° F. for every 300 feet (roughly) of ascent.

Nevertheless, Africans form by far the greatest number of people in Africa, even in the Union of South Africa, and in the highlands of Rhodesia and East Africa.

A great continent like Africa has many different homelands. In Chapter I we read how South America had many different peoples, living in different ways, because their homelands are different. The same is true of Africa.

Africa, like South America, has great hot, wet forests and jungles like the selvas of the Amazon; wide stretches of tropical grasslands like the llanos of the Orinoco and the campos of Brazil, and of temperate grasslands like the pampas of Argentina. Africa has, also, deserts not unlike the Atacama in South America, but many times greater. Look at the Sahara on the map—it is big enough to put Brazil in and have room to spare!

Africa, therefore, like South America, has dwellers in hot, wet forests and jungles who live the lives of savages, getting a living by hunting and fishing; people who are herdsmen and rear animals on the tropical and temperate grasslands; planters who grow rubber, cacao, coffee, tropical fruits and other things on their plantations; and desert people who manage to get a living in spite of the heat and the drought. In the following chapters we shall see how people live in these African homelands, and discover how far they are like or unlike the people who live in the homelands of South America.

First of all let us understand where these African homelands are.

The hot, wet forests of the Congo Basin lie near the Equator and on both sides of it, just as the selvas do in South America (see Fig. 86). A great river, the



Photo by E.N.A.

FIG. 44.—A DESERT NOMAD'S "HOME" PITCHED TEMPORARILY ON THE OUTSKIRTS OF A SAHARAN OASIS

Congo, flows through the heart of them, just as the Amazon flows through the selvas ; but the Congo flows *westwards* to the South Atlantic, while the Amazon flows *eastwards* to the North Atlantic.

Park-like country, called *savannahs*, lies north, east and south of the dense forest in Africa, just as it does to the north and south of the selvas. These

are the broad natural grasslands of the Sudan (in the north), Kenya and Tanganyika (in the east) and Rhodesia (in the south) ; while in the high plateau of South Africa we find temperate grasslands, the *veld*, which remind us of the pampas lands of South America.

North of the Sudan tropical grasslands is the Sahara, the world's greatest desert. There is nothing like it in northern South America, which does not extend far enough north. But south of the Equator and along the western side of both Africa and South America there is desert country—the Kalahari Desert in South-west Africa and the Atacama Desert in Chile.

In North-west Africa, along the coasts of Morocco, Algeria and Tunis, and in the extreme south-west of Africa, in the Cape of Good Hope, are fruit-growing lands very like the fruit lands of middle Chile (see Fig. 32). In all three the summers are very dry, and the rains come chiefly in winter.

Africa has splendid cities built by Europeans just as South America has ; and in both continents these great modern towns are in the southern and more temperate regions, where Europeans find it pleasant to live. Find Cape Town, Durban, Johannesburg and Pretoria, and compare their positions with those of Buenos Aires and Montevideo. (Notice that South America stretches farther south than southern Africa.)

But Africa is very different in many ways from South America, especially in its native peoples, who are chiefly negroes or Arabs, whose histories, manners and customs are not in the least like the native South American Indians. Moreover, the Africans are

far more numerous than the native Indians of South America.

The wild animals of Africa, too, are very different from those of South America, which has no elephants, unless we place the tapir with the elephant family,



Photo by L.B.

FIG. 45.—A HOME IN ZANZIBAR.

Describe the work the women are doing.

no gorillas, no lions, no hippopotamuses, and no great "lands of big game" teeming with wild life.

It seems strange, until we study the map of Africa and know a little about the continent, that although Europeans had almost completely explored and mapped the coast-line of Africa before they discovered South America, they knew little of Africa's interior for hundreds of years.

Almost to the middle of the nineteenth century the maps of Africa, which correctly showed the coast-line and the lands near it, were either very wrong or very empty so far as Africa's interior was concerned. Quite large regions were labelled "Unexplored." No wonder Africa was known as "*the Dark Continent*."

This was because Africa's interior was hard to penetrate. In the north the desert and fierce desert tribesmen barred the way; in the tropical parts were dense forests haunted by fevers and inhabited by fierce animals and fiercer men. Only the Mediterranean lands of Africa were really well known to Europeans, although the coast-lands of South Africa were becoming better understood and white people had long since settled there.

There is another reason why the interior of Africa remained unknown for so long. A physical map shows that the greater part of Africa is a vast plateau reaching close to the coasts in most parts. It is because of this that most of the African rivers have falls in their lower courses. These falls hindered exploration. Notice, however, the mouth of the Niger, where you will find a vast delta. In this case the early explorers did not connect the smaller streams of the delta with the great river behind.

About the middle of the nineteenth century, however, there came a great change. One explorer after another made his way to the mysterious heart of the Dark Continent. Nearly all these famous African explorers of the nineteenth century overcame the difficulties of the falls, and made use of the great

African rivers—Nature's highways—and their valleys to penetrate into the interior.

Speke, Grant and Baker traced the river *Nile* to its sources in Lakes Victoria, Albert Edward and Albert ; Mungo Park and others followed the course of the *Niger* in West Africa ; and Stanley went right through the heart of Africa by following the course of

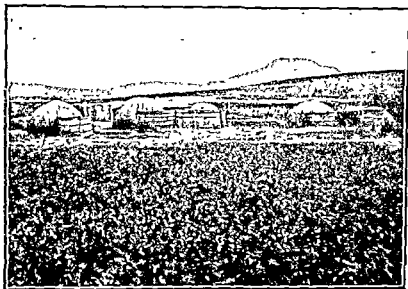


Photo by E.N.A.

FIG. 46.—ZULU HOMES (KRAALS) IN S.E. AFRICA.

The hill is the famous Majuba Hill. What is being grown in the foreground ?

the *Congo* from the great Lake Tanganyika to the Atlantic ; and Livingstone, who had long worked as a missionary in southern Africa, found out a great deal about the *Zambezi*, and Lakes Nyasa and Tanganyika, on whose shores he met Stanley (1871), who had been sent out to search for him.

These splendid beginnings were followed up by later

explorers, by missionaries and hunters, by traders and settlers, by railway makers and empire builders, until the interior of the Dark Continent was no longer represented by blank spaces on the map of the world.

QUESTIONS AND EXERCISES

- (1) Distance north and south of the Equator is stated in degrees of latitude. Parallels of latitude on maps help us to find out how far places lie north or south of the Equator. Find the latitude of Algiers in northern Africa, and of Cape Town in southern Africa. What do you notice? Compare the latitude of Cape Town with that of Punta Arenas in South America.
- (2) In what latitudes are (a) the Tropic of Cancer, (b) the Tropic of Capricorn? How many *degrees* of latitude lie between them? On an outline map of Africa shade all land within the Tropics. Why would you expect this area to have a hot climate?
- (3) Prepare an outline map of South America and one of Africa. On both shade the land over 1,000 feet (or 1,200 feet). State in writing the great difference between the relief of the two continents.
- (4) Find, and read, accounts of the journeys of David Livingstone, and mark them on a sketch map.

- THE BARBARY STATES -

THE Barbary States are the Mediterranean lands of north-western Africa. They are so called because they are the home of the Berber people; but many other races live there to-day, for through the ages these lands have fallen into the hands of many conquerors, and all the time they have been visited by men from the desert, and even by negro people from the other side of the desert.

In the cities are large numbers of Moors, who are people of mixed Berber and Arab race, many Jews, many Arabs and people from Europe. To-day the French are the chief rulers. Algeria is a French colony; and Tunis and Morocco are French protectorates, while a coast strip along the Straits of Gibraltar is governed by the Spaniards. But Frenchmen and Spaniards are few in number compared with the Moors, the Berbers, the Arabs and Jews, all of whom have long had their homes in the Barbary States.

Algiers, the most important town in the Barbary States, is only about two days' journey by rail and boat from London, and many English people go there and to other places along the coast for their winter holidays because of the mild climate. It is in Algiers that one first realises what a mixture of races have made their homes in the Barbary States. From the sea it is "a white-and-grey town rising upon a crescent of hills in terrace on terrace of thick walls and flat

wide, dry and barren plateau, bordered on its southern edge by the High or Saharan Atlas, whose snowy crests look down upon the red and yellow sands and rocks of the Sahara.

Among the hills of the Little Atlas live the true Berbers. "For miles and miles there is one unending



Photo by L. V. A.

FIG. 48.—A PLANTATION OF MULBERRY TREES IN THE TELL.

For what purposes are mulberry trees grown?

succession of villages among their groves of figs and olives. Here and there the better spots are picked out for grain fields, and a few carobs (locust beans) are grown to spice the donkey's diet of straw and make titbits for the children. The sheep and goats which pasture beneath the trees furnish an occasional

boiled or broiled joint, and the much more important wool for the flowing robe of Arab style. Dried figs, coarse bread, olives, oil and occasionally meat support this vigorous race."

The people of the plateau live in a dry land, where fruit and grain cannot grow except by irrigation in deep and sheltered valleys. They are herdsmen, and keep sheep and goats and camels. In some places esparto grass, much used in paper making, is grown to

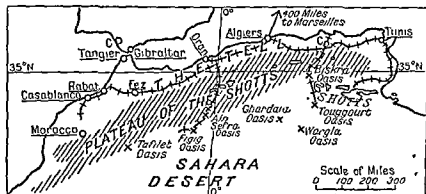


FIG. 49.—MAP OF THE BARBARY STATES.

Distinguish between (a) the Tell, (b) the Plateau of the Shotts, (c) the Desert.

be sent to the ports for European paper-mills. Large shallow salt lakes, partly dried up, fill hollows in this plateau region. These lakes are known as the *Shotts*, and that is why the plateau itself is usually called the Plateau of the Shotts.

Beyond the High or Saharan Atlas is the desert itself, with many fertile oases, several of which are big enough to support large towns with many thousands of inhabitants. These oases have large groves of date-palms, and date-picking and date-packing keep

wide, dry and barren plateau, bordered on its southern edge by the High or Saharan Atlas, whose snowy crests look down upon the red and yellow sands and rocks of the Sahara.

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Photo by E N A.

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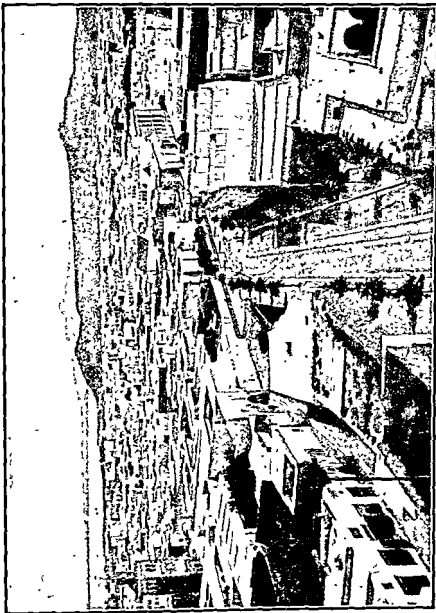


Photo by L.N.A.

FIG. 50.—A GENERAL VIEW OF TUNIS.
Describe the houses and point out how they differ from ours.

copper ware and strange fruits, all shot with the sunlight that filters through the screens of reeds above. . . . From the metal workers arises a din of beaten copper and brass. . . . Wool-dyers work with bare arms stained bright blue, crimson and saffron."

Marrakesh (Morocco) stands in a rich fruit-growing district, while *Casablanca* is an important port from which steamers run to Bordeaux. In the far north, near the Straits of Gibraltar, is the port of *Tangier*, an international port much visited by tourists.

Tunis, the most easterly of the three Barbary States, once supplied ancient Rome with much of its wheat and oil, and still produces great quantities of both. Near its capital, *Tunis*, are the ruins of Carthage, which two thousand years ago contested with Rome for the control of the Mediterranean and the ancient world.

The Italian possession, *Libya*, which lies to the east of Tunis, resembles the Barbary States in some respects. It is divided into two districts, Tripolitania and Cyrenaica. Find these on the map. The coastal areas have the characteristic Mediterranean climate and products of the Tell, and in this part of the country many thousands of Italian settlers have olive gardens, vineyards and groves of oranges and lemons. In the south lies the desert with the important oases of Murzûk and Ghadames. *Tripoli* is the capital and chief port. It is an important starting-point for many caravan routes across the desert and a busy market for caravan traders.

QUESTIONS AND EXERCISES

- (1) Use a contoured map of the Barbary States to make a section across Algeria from the Mediterranean to the Sahara.

- (2) Map a sketch map of the Barbary States to show (a) the Tell, (b) the Plateau of the Shotts, (c) the desert.
- (3) Explain (a) why irrigation is necessary in the Tell, (b) why houses in the Barbary States have flat roofs, (c) why there are salt lakes on the plateau.
- (4) Make a map of the Barbary States to show where farmers, herdsmen and desert men chiefly live.
- (5) Algeria sends much wine to France. But France is the leading wine country of the world ! Why does she want Algerian wine ?

THE DESERT AND THE CAMELMEN

THE Sahara is the largest desert in the world. The French rule most of it, but the Italians govern that part which lies in southern *Libya*, while part of the eastern Sahara belongs either to Egypt or to the Anglo-Egyptian Sudan.

It is a mistake to suppose that the Sahara is one vast waste of sand, for a glance at the physical map shows that a considerable part of it is occupied by highlands and mountains. On its northern and southern edges and even in its very heart are regions of poor grassland, where flocks and herds can be reared. Only about one-ninth of the Sahara is covered with desert sands. These loose sands have been blown by the wind into crescent-shaped *sand-dunes*, with steep fronts and with rounded backs.

Nor is it correct to think of the Sahara only as the home of wandering herdsmen and camelmen; for many of the larger oases contain towns with thousands of inhabitants, who live in thick-walled, flat-roofed houses of sun-dried mud, and cultivate grains and fruits as well as date palms.

“The Sahara is furrowed in many directions by water channels, none of which contain water the whole year round. . . . The underground supply of water is remarkably great. In most places, especially near high land, water can be reached by sinking for it. This subterranean water-supply, when brought to the

surface or when naturally flowing near the surface, creates as if by magic those refreshing oases on the caravan routes between the Mediterranean and the Sudan."¹

Water supply decides where people can have settled homes, especially in lands so dry as this. If we could make a map to show where the settled population of the Sahara is, it would tell us that people live chiefly

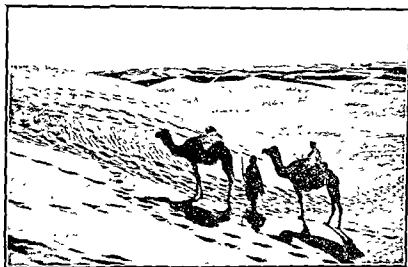


FIG. 31.—CAMELMEN IN THE DESERT.

Photo by E. A. A.

in the oases, where springs come to the surface, or where water is easily got by means of wells; or in the mountainous regions of the central Sahara, where rain is much more frequent than anywhere else, and where springs are likely to occur.

The most important *oases* are those of the northern and eastern Sahara, shown on the map on p. 120. Many

¹ A. Silva White.

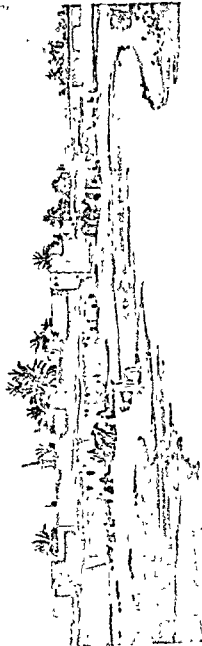


PLATE 2—PRAYER TIME NEAR A SAHARAN OASIS.

This scene shows a small convoy of camels which has reached an oasis town just at the hour of prayer. The camellmen are Mohammedans and say their prayers facing towards Mecca. Note the type of building found in oases and the date palms rearing their heads above the walls

become since the French Government took charge of the Sahara. The worst part of the journey is the terrible Tenezruft, "without water, wood, grass, or anything living or growing," a stretch of over 300 miles without

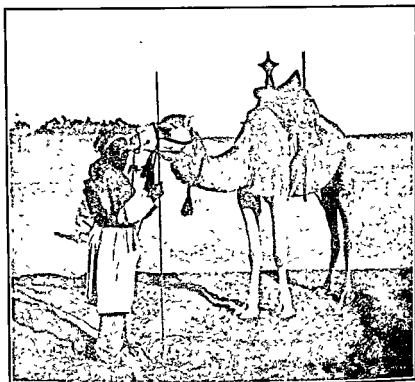


Photo by L. N. A.

FIG. 53.—A TUAREG WITH HIS MEHARI OR RACING CAMEL.

water, which must be terrible for slowly moving camel caravans (see Fig. 52).

Travel by caravan is rarely pleasant. Days are usually hot and nights very cold, and a very early start is necessary, so that as much ground as possible may be covered before the heat of the day. Sandstorms are common, the glare of the sun burns the eyes,

raise mint and roses, from which they make rose water and mint essence. From a few olive trees, some olive-oil is produced in primitive presses. But dates are the only article of exportation from the oasis."¹

The people of the north-eastern Sahara—the northern part of the Libyan Desert—are the Bedouin Arabs, or the Bedawi as they are often called. The word "Bedouin" really means a desert dweller, and is the name given generally to those people of the eastern Sahara and Arabia who have no settled homes, but wander from place to place with flocks and herds, or go on caravan journeys as guides or guards.

In the central Sahara, and in the region to the south of it, live the *Tuareg*, the "people of the veil," who are tent-dwellers, moving from place to place with their sheep, camels and goats. They cover their faces with veils, save for their eyes, to keep out the windblown sand, and form powerful tribes under their own chieftains. Each warrior "carries a spear, a sabre held at the wrist by a leather thong, a cross-shaped guard sword at his side, and a shield made of antelope hide" (see Fig. 53).

Towards the southern part of the desert, black people become commoner and commoner, until a region is reached where negro peoples are many, where people from the desert and the north are few, and where cattle are commoner than camels. It is, indeed, only when we are south of the Sahara that we reach the real Africa.

Nowadays it is possible to cross the Sahara from Algiers to Timbuktu by motor-car, so safe has travel

¹ Hassanein Bey.

become since the French Government took charge of the Sahara. The worst part of the journey is the terrible Tenezruft, "without water, wood, grass, or anything living or growing," a stretch of over 300 miles without

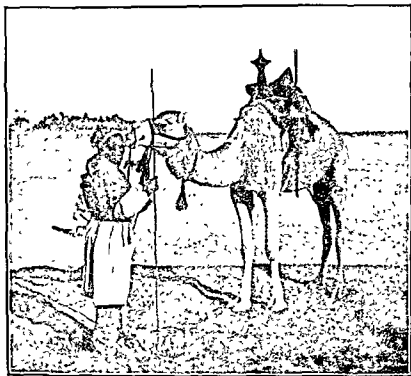


Photo by E. N. A.

FIG. 53.—A TUAREG WITH HIS MEHARI OR RACING CAMEL.

water, which must be terrible for slowly moving camel caravans (see Fig. 52).

Travel by caravan is rarely pleasant. Days are usually hot and nights very cold, and a very early start is necessary, so that as much ground as possible may be covered before the heat of the day. Sandstorms are common, the glare of the sun burns the eyes,

and mirages mislead and dishearten the weary traveller. It may be cold even during the day in the early part of the year. A recent traveller¹ in the Sahara says of his journey in January: "A very strong east to north-east wind had been blowing continuously. . . . It was necessary to wear a thick coat and walk all day, for after half an hour sitting on a camel travelling at a walk, one's limbs became numbed with cold."

The chief caravan centres on the southern borders of the Sahara are Timbuktu and Kano. *Timbuktu*, near the river Niger, is a city with walls of red sun-dried mud, and crooked narrow streets, crowded with people of all the nations of northern Africa. Caravans of 2,000 or 3,000 camels each bring salt or French and other European goods from Morocco and Algeria, to be sold among the Niger people. "The market-place of *Kano* is the great meeting-place of traders from almost all parts of Africa north of the Equator and west of the Nile Valley." Its traders deal in native manufactures of cotton, leather, pottery and metal, as well as millet, maize, ground-nuts, gum, and in kola nuts, which are much prized by the natives (see Fig. 63).

QUESTIONS AND EXERCISES

- (1) Make a map to show (a) the position and extent of the Sahara Desert, (b) the kind of regions lying to the north and to the south.
- (2) Make a sketch map to show the chief caravan routes across the desert and the chief caravan centres.

¹ Lieut. Cameron.

- (3) What makes the Sahara a desert ? Why is it so very large ?
Recall that it lies in the belt of north-east Trade Winds, and that it has a great land mass to the east of it.
 - (4) Find an account of the Tuaregs in one of your library books, and write a short account of this most interesting people.
 - (5) What makes " the desert bloom as a rose " ? How is it able to do this ?
 - (6) Make a collection of pictures of the Sahara, showing (a) sand-dunes, (b) oases, (c) caravans, (d) date groves.
-

- - EGYPT AND THE NILE - -

THE River Nile has been important almost from the beginning of human history. In its delta and lower valley a great empire flourished, and mighty kings reared wonderful pyramids, palaces and temples long before the days of Ancient Greece and Rome. "Ancient Egypt was civilised, and knew the culture of fine arts and science, when hairy cavemen were yet clubbing their prey and eating it raw on that island where Oxford now stands."

Egypt on the map appears as a large and nearly square country, about three times the size of the British Isles ; but the real Egypt is the narrow valley of the lower Nile and its fan-shaped delta. You can see it best on the population map, for these people are *more crowded together than anywhere else in Africa*. Away from the rich and fertile valley there is desert. The real Egypt, in fact, is a great long oasis watered by the Nile (see Figs. 57, 58 and 90).

"Egypt is a practically rainless country ; the eight inches of rain which falls each year on the average at Alexandria diminishes rapidly as we go southwards, and, except for occasional winter showers which may fall in the delta region, the country is rainless. It is the Nile which provides Egypt with its sole water supply, and human occupation is only possible so far as the water of the river can be carried by canal or by mechanical devices." Thus we see how true is the saying, "Egypt is the gift of the Nile."



Photo by E.N.A.

FIG. 54.—NATIVE AGRICULTURISTS OF UPPER EGYPT WORKING
A SHADUF.

This contrivance raises water by means of a long rod pivoted near one end, the shorter arm weighted to act as the counterpoise of a lever, the longer carrying a bucket, which is lowered into the well.

Egyptian farmers from the earliest times depended on the yearly Nile flood, which not only gave water to the thirsty land, but left behind it a rich deposit of mud in which seeds could be planted. The farmers' year consisted of (1) the flood time, (2) the seed time, (3) the harvest time. The gradual rise of the river was eagerly watched; along its banks measures were set up so that men might know whether they might expect a good flood that meant rich harvests. Egypt, as we know from the Bible, had grain when the Holy Land was without a harvest. There was always "corn in Egypt," and to Egypt went Jacob and his family when famine was severe in Canaan.

"The Nile begins to rise about the middle of July, and in September reaches its highest level in Egypt; it then falls quickly at first and then more slowly until its lowest stage is reached by the end of May or early in June."

What causes this annual flood that means life to Egypt? Notice on the map that the Nile has its main sources in the great African lakes on the plateaus of Kenya and Uganda. The outflow from these lakes, however, is only sufficient to maintain an ordinary flow all the year round. The flood water comes down from the high plateau of Abyssinia by way of the Atbara and the Blue Nile, when the heavy summer rains fall. Figs. 58 and 87 will make this clear.

In modern times British engineers have built dams or barrages across the Nile at certain places, to hold back the flood water instead of allowing it to run away quickly. More land has in this way been made fertile, and more water is available for irrigation for many

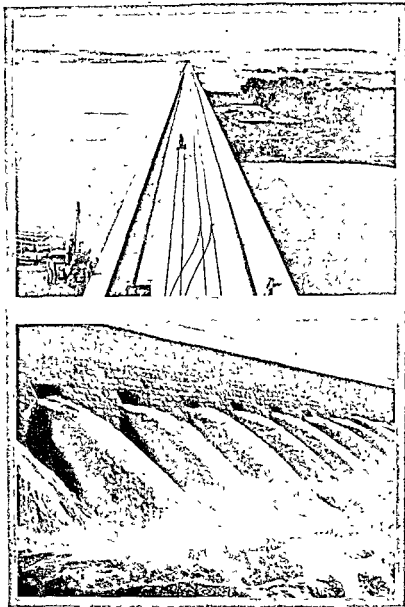


Photo by E.N.A.

FIG. 55 —THE ASWAN DAM.

The upper photograph, which is a view along the top of the dam, shows that the dam is a road as well as a barrage. The lower photograph shows water passing through the open sluices. This should tell you when the photograph was taken.

months in the year. The best known of these barrages is the Aswan Dam. The water held up by this dam is led by canals to thousands of fields for miles around.

Three-quarters of Egypt's people get their living from the land. As in other crowded countries in hot lands, farms are small—at least three-fifths of them



Photo by E.N.A.

FIG. 56.—HARVESTERS AT WORK NEAR THE PYRAMIDS

Here you see how close the "sown" is to the desert (see also Fig. 57).

are less than one acre. Cotton, sugar, rice, millet and maize are the chief summer crops. Wheat and barley, beans and peas, and many kinds of vegetables and other garden crops, are grown in winter. Cotton is the chief export of Egypt and *Alexandria* is the chief port.

The fellahin of Egypt live in small mud-walled villages of sun-dried bricks with flat roofs, and open

holes for windows in the thick walls. These villages are on higher ground out of reach of floods; many indeed are built on artificial mounds and connected

with others by embankments above the level of the plain.

Fig. 57 shows the position of *Cairo*, the capital of Egypt and the largest city in Africa. If you study it carefully you can learn a great deal from it.

South of Egypt is *Anglo-Egyptian Sudan*, so called because both English and Egyptians are concerned in governing it. In the north there is

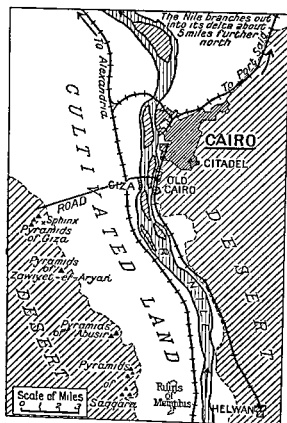


FIG. 57.—THE POSITION OF CAIRO.

Note the difference between the desert and the "sown."
Why is there this difference?

practically rainless desert almost everywhere, though there are towns and villages here and there by the river. Farther south, where light rains come in summer, the country is dry scrubland with umbrella-like thorny trees, where antelopes and giraffes, lions and zebra and other

animals are found. This gives place to savannahs, where the summer rainfall is heavier, trees are com-

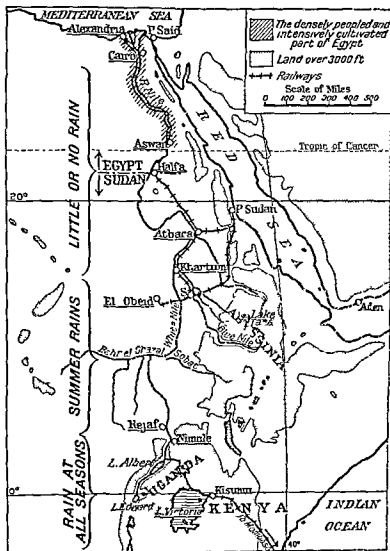


FIG. 58.—MAP OF THE NILE BASIN.

This map should make it clear to you (a) why the Nile never runs dry,
(b) why the Nile is in flood every summer.

moner and grasses taller and richer. In this part of its course the Nile flows slowly and is almost choked with marsh plants that have to be cut up with huge saws and towed off by steamers to keep the channel clear. This river vegetation is known as the "*Sudd*."

Still farther south, near the Great Lakes, where rains fall at all seasons, there are dense forests, wide and fertile plateaus and valleys where fruits and grain and sweet potatoes can be grown by the negroes who live there.

During recent years the production of cotton in the Anglo-Egyptian Sudan has become very important. The Sennar Dam, built across the Blue Nile, holds back water for the irrigation of the cotton fields which lie between the converging Blue and White Niles. Find this latter area on Fig. 58 and notice the new railway which takes the raw cotton direct to *Port Sudan* for export.

Khartum, the capital of the Anglo-Egyptian Sudan, stands at the confluence of the Blue Nile and the White Nile. It has a splendid position for commanding river and land routes.

It is possible to travel by rail, road and river from Cairo, the capital of Egypt, far up the Nile Valley right to Uganda and Kenya. You can leave Cairo at 8.30 p.m. and reach Luxor and its marvellous tombs and temples by 9 a.m. next morning, in time to cross the river and visit the tomb of Tutankhamen in the "*Valley of the Kings*."

The white train, with its blue glass windows that lessen the glare of the sun, goes on to Shellal near Aswan and the great dam. The next part of the journey is by Sudan Government steamer from Shellal

to Halfa, on the border between Egypt and the Sudan. It takes from 5 p.m. to noon next day, through desert country "where Arabs live in squalor in their mud villages beneath the palms by the river, and lean camels browse and graze, apparently on nothing, or recline on shadeless sands hot enough to burn the skin from one's hands."

From Halfa the Sudan Government railway takes travellers on to *Khartum* in about fifteen hours, cutting across the great bend of the Nile past desert stations that have only numbers and no names. At *Atbara*, where the river *Atbara* joins the Nile from *Abyssinia*, an important branch line goes off to *Port Sudan*, the chief port on the Red Sea.

From *Khartum*, a Sudan Government steamer takes a week to convey travellers far up the Nile to *Rejaf*, whence motor-cars run in connection with the steamer service to *Nimule* on the border of *Uganda*, the country of the great African Lakes. Altogether it takes nineteen days to make the steamer and rail

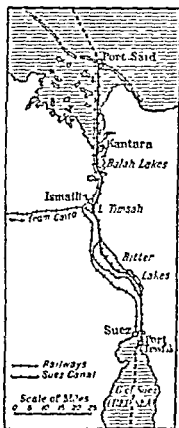


FIG. 59.—MAP OF THE SUZ CANAL.

How many miles is it from Suez to Port Said? Find out how long it takes a vessel to go through the Canal.

in connection with the steamer service to *Nimule* on the border of *Uganda*, the country of the great African Lakes. Altogether it takes nineteen days to make the steamer and rail

journey from Cairo to Rejaf in the shortest time possible. How long would it take an aeroplane?

Great Britain takes a keen interest in what happens in Egypt, even now that it has become an independent country. This is because the Suez Canal, so important as a link in the seaways between Great Britain on the one hand and India and Australia on the other, crosses Egyptian territory. Fig. 59 is a map of the Canal, and by its means you can easily "read" its most important features. Notice carefully the position of *Port Said*, a very important coaling and oiling station, at the Mediterranean Sea entrance to the Canal.

QUESTIONS AND EXERCISES

- (1) Describe some of the "mechanical devices" (see p. 125) used in Egypt to bring water to the fields. Collect pictures of shadufs and water-wheels.
- (2) "The Sudan Government steamers plying on the White Nile are fitted with electric fans and mosquito-proof shelters." Why?
- (3) Rejaf is 3,019 miles from the Mediterranean. Through what different kinds of country would you pass if you took this journey? Make a map to show the route.
- (4) Why is it that the journey from Cairo to Khartum is done partly by rail and partly by steamer? Be sure to mention the cataracts.
- (5) In what ways are the homes, dress and food of the fellahin of Egypt different from those of the Tuareg of the Sahara? Can you explain why?
- (6) Why is it that the ancient monuments of Egypt have remained right down to the present time while there are no ancient dwelling places?
- (7) Make a map which shows very clearly the cause of the Nile floods.

- THE NEGRO FARMERS AND - - CATTLEMEN OF WEST AFRICA -

A FORTNIGHT'S voyage by steamer from Liverpool takes us to the Upper Guinea Coast of West Africa—known to all its friends simply as "the Coast."

In this chapter we shall include in *West Africa* the countries stretching from Cape Verde to the Kunene River. This is the *Guinea Coast*, which is divided into (a) *Upper Guinea*, from Cape Verde to the Niger, and (b) *Lower Guinea*, from the Niger to the Kunene. Most of our space we shall give to Upper Guinea, because it is more important and because it contains four British possessions. What are these?

What is "the Coast" (Upper Guinea) like? People who go there have to take with them, among other things, wide sun helmets, mosquito boots, mosquito nets, stout water-tight boots with thick soles, light clothing, but good flannel to wear next to the skin at night, two umbrellas (one black and one white), a stout waterproof and quinine. Each of these things tells us something important about the climate of West Africa.

The sun helmet and the white umbrella tell us that the sun's heat is very great, and that its fierce rays are dangerous to unprotected heads. The need for flannel reminds us of the danger of chill at night when people throw off their bedclothes in a perspiration. The stout water-tight boots, the black umbrella and

the thick waterproof all tell us of the heavy rains that fall in that part of Africa. The quinine, the mosquito boots and mosquito nets tell of the dangers of malaria—the fever carried by mosquitoes and planted in the blood when they bite their victims.

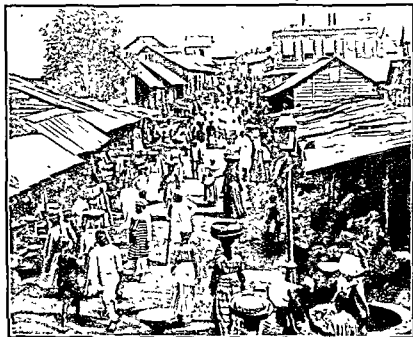


Photo by E.N.A.

FIG 60—NATIVE MARKET IN FREETOWN, THE CAPITAL OF SIERRA LEONE.

Not many years ago life on the Guinea Coast was very dangerous for Europeans, owing to malaria and yellow fever. Sierra Leone, indeed, was known as "the white man's grave." Nowadays, thanks to science and clever doctors, this is no longer the case. It is true, however, that West Africa is no country for the white man to settle in, as he has done in

Canada, Australia, South Africa and New Zealand. As a rule, he does his job there and returns to England as soon as he can.

Now if we find the Equator on the map of Africa, and notice how near Upper Guinea is to it, we shall see that these lands belong very largely to the hot, wet regions of the equatorial belt, and we shall expect to find large parts of them covered with forests and jungle, something like those of the Congo and Amazon basins.

If we fly northwards in an aeroplane from our ship as she lies off the coast at *Accra*, we pass over the belt of surf fringing the shore, across a belt of mangrove swamp, then over a wider belt of dense equatorial forest, with many clearings here and there for native villages, and for plantations of cocoa, rubber and rice. Gradually the forest thins out until we are passing over patches of woodland separated by stretches of tall grasses; more native towns and villages with gardens and plantations are seen in this belt, and herds of cattle grazing. Soon the country begins to change again; trees become fewer, and the stretches of grassland wider, until we are flying over open grassland that becomes poorer and thinner as the desert comes nearer and nearer. Here the villages are few and far between, and instead of fields and gardens, there are flocks of woolless sheep, and goats and scattered herds of cattle grazing on the thin pastures. Finally we should reach the desert itself.

Going inland from the Gulf of Guinea we thus notice *five belts of natural vegetation*: (1) mangrove swamps that fringe the wet shorelands; (2) dense

equatorial forests that also flourish where the climate is still hot and wet ; (3) savannahs, where the climate is hot but not so wet ; (4) poor grasslands and scrublands, where the rainfall is small ; (5) the desert, where little or no rain falls.

Notice how these vegetation belts largely depend upon the supply of rain. For several months in the year steady winds blow on-shore from the Gulf of

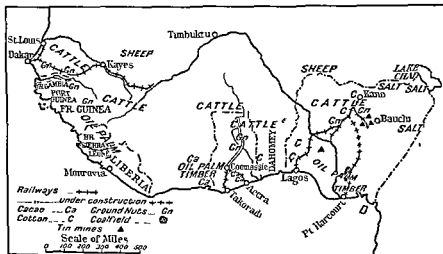


FIG. 61.—MAP OF WEST AFRICA.

Guinea, bringing the rain. The summer winds from the south-west are known as the Guinea monsoons. (A *monsoon* is a seasonal wind.) The farther we go from the sea the shorter we find the rainy season ; in the forest and the mangrove belt the rainy winds blow for nine months in the year, and the dry season is only three months long. Farther inland the rainy season and the dry season are each about six months long. But in the north, on the Sahara borders, the

dry season is nine months long, and only scanty rain falls during the remaining three months.

During the dry season, between November and March, a cool north-east wind, known as the *Harmattan*, blows from the Sahara towards "the coast." Although it brings with it clouds of very fine dust, it also brings relief from the terrible moist heat of the rainy season. No wonder it is called "The Doctor!"

The native people of Upper Guinea are negroes, many of whom are of a fine type and much better educated than the natives of other parts of Africa. Most of them are negro farmers or stock-breeders, owning their own farms and herds, although nowadays some West Africans are sufficiently well educated to act as clerks and storekeepers, teachers and doctors, and so forth in the coastal towns, where they wear European dress and speak English or French.

The negroes of the forest belt either collect palm oil and palm kernels or wild rubber to send to the coast; or they help in cutting mahogany and ebony; or they grow cacao trees, rice, sugar and sweet potatoes in their gardens, or work on the large cacao plantations in the forest clearings. The Gold Coast is now the world's chief source of cacao, and nearly all the cocoa and chocolates we drink or eat are made from Gold Coast cacao, exported from the old port of *Accra* or the new deep-harbour port of *Takoradi*. From both of these ports railways run inland to *Kumasi*, a large native town in Ashanti.

In the savannah country, which is higher and more open, negro farmers grow cotton, maize, millet and tobacco, and keep large herds of cattle, because this

equatorial forests that also flourish where the climate is still hot and wet ; (3) savannahs, where the climate is hot but not so wet ; (4) poor grasslands and scrublands, where the rainfall is small ; (5) the desert, where little or no rain falls.

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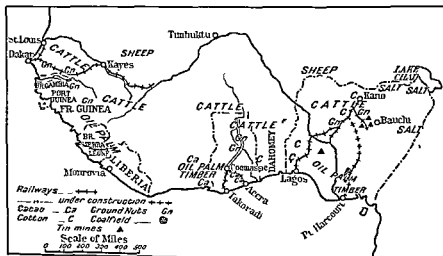


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used for fattening cattle. Along the dry lands of the desert border the negroes gather gum from the thorny acacias, clean it, and send it to be sold as gum-arabic, which is used for making gum, varnish and sweets. The negro cities of the desert border—*Timbuktu*, *Kano*, *Sokoto* and *Kuka*, enclosed in their thick red mud walls, are market centres for the caravans of the



FIG. 63.—A CORNER IN THE MARKET AT KANO.

Notice the houses and walls; also the earthenware.

Sahara, and for the Guinea lands to the south (see p. 123).

Great changes have taken place in recent years in West Africa. The people within easy reach of the coast have become used to European things; they wear cotton cloth of gaudy patterns made in Britain and other countries of western Europe, instead of the blue cotton stuff they used to make on native looms, and they prefer to roof their mud-walled huts with corrugated iron instead of grass or palm thatch. Railways run inland from the ports on the coast,

both in the English and French colonies, and fine motor roads have been made up-country, especially in Gold Coast Colony.

The great River Niger and its tributaries, however, as well as other smaller West African streams, are still much used as highways of trade. Native canoes bring down palm-oil and other products to the ports; and stern-wheel steamers share in the traffic. Native carriers still trot through the elephant grass and the forest, bearing their huge palm-leaf hampers of rice and other goods upon their backs.

The inland plateau country is rich in gold, diamonds and tin. The *Bauchi* tableland of Nigeria is one of the richest tin-mining regions in the British Empire. Nigerian coal, too, comes down from Udi to the steamers at *Port Harcourt* in the Niger delta.

We can give only a very small space to *Lower Guinea*, where we find *French Equatorial Africa*, a vast territory which includes the greater part of the former German colony of Kamerun; the small Spanish possession of *Rio Muni*; and *Angola*, the largest Portuguese possession.

As in Upper Guinea, the coastal plains and the interior plateau are well-marked features of the relief. Except for the southern part of Angola, which is very dry and approaches desert conditions, the natural vegetation and the cultivated products are also very similar to those of Upper Guinea.

Duala and *Libreville* (French Equatorial Africa), and *San Paulo de Loanda* and *Benguela* (Angola), are the chief ports and commercial centres. A very important railway runs from Lobito Bay near

Benguela to the Katanga mining area in the Belgian Congo (see Fig. 67).

QUESTIONS AND EXERCISES

- (1) What are (a) cacao, (b) palm-oil? Whence and how are they obtained? What are they used for?
- (2) How did Liberia get its name? How is this country different from other West African lands?
- (3) "Along this coast there are four British Colonies, several strips of French territory, two Portuguese Colonies, a Spanish Colony, and a Negro Republic."

Draw a map to illustrate this statement; name each country, and mark and name the capital of each.

- (4) Give the position and importance of each of the following towns, and draw sketch-maps to illustrate your answer: Lagos, Timbaktu, Takoradi, Benguela, Freetown.

- PEOPLE OF THE CONGO BASIN -

THE CONGO flows through the heart of Equatorial Africa from the eastern plateau of the Great Lakes to the Atlantic. With its tributaries, the chief of which are the Ubangi and the Kassai, the Congo drains a huge basin more than seven times the size of the British Isles.

The people who live in the Congo basin are chiefly negroes of the great Bantu race. There are, however, people of mixed Arab and negro races, and some Europeans—especially Belgians, for the greater part of the basin belongs to the little country of Belgium.

The Congo basin is not all dense forest, although large parts of it are covered with forest and jungle that are little known to Europeans, and are the homes of backward tribes and fierce animals. Other parts are covered with lighter forests and tall grasses that grow to a height of 15 to 20 feet. Other regions are high, open savannah country, especially in Katanga, in the southern part of the basin.

The Congo negroes live in quite large villages, some of which have six thousand people, and are really big enough to call "towns." These negroes have little fields and gardens, in which they grow bananas, manioc and yams, cotton and sugar, and rice and tobacco.

Other Congo peoples live in smaller and poorer villages by the rivers, or even in clearings made in the forest. Some earn their living by working for the

Europeans as canoe men and steamer hands on the great river, or as gatherers of rubber, palm-oil and gum in the forests. Many work in the plantations owned by the white men, who grow coffee, cacao, cotton and sugar-cane.

Native villages are of many kinds. A traveller in



Photo by E.N.A.

FIG. 64.—HOMES IN THE EQUATORIAL FORESTS OF THE CONGO BASIN.

Compare with Fig. 2 and look once more at Fig. 43

Belgian Congo writes: "The huts were chiefly detached, and built facing one another in long avenues. Some were rectangular, with ridged grass-thatched roof; others were semi-circular, composed of mud and thatched with palm-fronds; and yet others were large square structures, each with a small verandah." The Congolese are fine carvers in wood, good workers

in metal, and clever basket-makers and mat-makers.

The less-known and more backward natives dwell in the dense forests, and get their living chiefly by hunting, or fishing in the rivers ; they do little farming, but sometimes the women tend small gardens in which

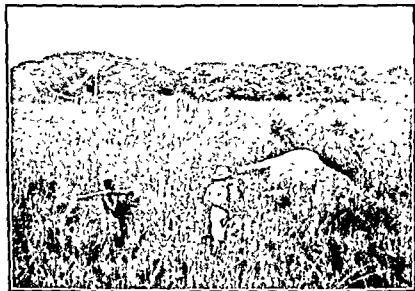


Photo by E.N.A.

FIG. 65.—ELEPHANT SHOOTING IN THE CONGO.

The hunter has just shot the elephant. The photograph shows typical elephant country. Naturally the elephant is not found in the very densely forested part of the basin.

fruits, yams and manioc are grown. The densest forests are the Semliki and the Ituri forests, where the pygmy negroes live. But to-day a good road has been cut through each of these forests, so that travellers can go by motor from Stanleyville on the Upper Congo to river ports on the Upper Nile.

In the densest parts of the forest, trees of enormous

girth tower to a great height before spreading their canopies of leaves, which almost shut out the sunlight. "A tangled undergrowth of vines and climbers links the trees into a maze of vegetation. The ground, covered with black soil, is decorated with myriads of different plants—now with broad leathery leaves which



Photo by E.N.A

FIG. 66.—A PYGMY VILLAGE IN THE EASTERN CONGO.

Note the bent-stick framework of the huts and the leaf thatch. You will agree that these "homes" are far inferior to those shown in Fig. 64.

rustle and crackle at every attempt to force a way through them, now with high narrow-leaved plants, with barbed spines that hold back the traveller who ventures from the beaten track."

Elephant and buffalo tracks cross the forest in all directions. Crowds of red or black-and-white monkeys inhabit the trees. Earthworms, light blue in colour,

grow to a length of nine inches ; driver ants travel in columns hundreds of thousands strong.

The pygmies wander from place to place in the forest, never staying long in any one spot, but always keeping in touch with their negro friends, from whom they get pots, weapons and bananas in exchange for bird and animal skins and fresh meat. " Their huts are built in a very short time from creepers and twigs, thatched with broad leaves. The men wander in the forest, pursue its shy game and set traps for such animals as they have no hope of killing in any other manner. The bow and arrow are their chief weapons ; only rarely do you see them carrying a spear. Their arrows are sometimes provided with broad-headed iron tips and sometimes are made entirely of wood. In the latter case they are dipped in poison."¹

The natives of the Congo basin are not keepers of cattle, except in the higher regions, like Katanga, where the climate is cooler, and where the country is free from the deadly tsetse fly whose bite infects the blood of animals with a frightful disease which soon destroys them. Considerable sums of money are being spent to find ways of killing this fly.

Elsewhere the tsetse fly prevents cattle-rearing, and the fever-carrying mosquitoes render life impossible for Europeans unless they are wise enough to take proper precautions—quinine every day, and mosquito nets every night.

The white men live chiefly in the towns or on the plantations which they have made by clearing parts of the thinner forest and the tall grasses. Some of

¹ Prince William of Sweden.

train for 250 miles (to avoid the rapids of the lower Congo) to *Kinshasa (Leopoldville)*, the capital of Belgian Congo. From Kinshasa shallow-draft stern-wheel steamers with many verandah-like decks go up the Congo on the way to *Stanleyville*, where train is taken again to avoid the Stanley Falls and to reach *Ponthierville*. Then comes another stretch of river to *Kindu*, where again rapids occur and train is taken to *Kongolo*. Here the river is called Lualaba, and small craft go up it as far as *Bukama*, a station on the great railway that runs to far-off Cape Town.

South-east of Bukama are the rich copper mines of the Katanga region. The exact truth about the mineral riches of the region is not known, but they are believed to be exceedingly great. At the present time over 100,000 natives are employed in the mines. *Elizabethville*, the chief town, has rail connection with (a) Rhodesia and the south, (b) Lobito Bay (see Fig. 67).

QUESTIONS AND EXERCISES

- (1) Suppose you were at Stanleyville in Belgian Congo and wanted to go to Cape Town. Which way would you go?
- (2) Find out all you can about Stanley's journey along the Congo. What places are named after him?
- (3) "The manioc plant is grown by many of the Congo natives." Which part of it do they use for food, and how is it prepared? In what other continent is it used? What food eaten in Britain is made from it?
- (4) Make a map of the Congo basin to show (a) where the Pygmies live, (b) the position of the Katanga mining area, (c) the water and rail route from Matadi to Elizabethville.
- (5) If you have a copy of Book I (Junior Series), read again the story of "Teke of the Great Forest."

- - LANDS OF BIG GAME - -

WHEN we read in books of travel and adventure about the wonderful game lands of East Africa, of great *plains with grazing zebra and antelopes of many kinds, moving from pasture to pasture in herds thousands strong*, we are tempted to think that this is only a tale; or that however true it may have been when white men first began to explore the African wilds, it is no longer so to-day.

But it is all true. There is no need for us to go on long and dangerous hunting expeditions to prove it. All we need do is to take a comfortable journey by train across the game country of East Africa, where we can see the animals with our own eyes as we gaze out of the carriage windows!

Look at Fig. 68 and notice how the eastern part of Africa is mainly a high plateau with a low coastal plain between it and the Indian Ocean on the east, and rising in the far west to very high mountain peaks and masses in the region of the great African lakes. The largest of these lakes is Victoria, whose northern part is cut by the Equator. The other great lakes—Tanganyika and Nyasa—and some smaller ones, are long and narrow and very deep, and form a lake chain from the Zambezi River to the Upper Nile.

East Africa has many kinds of homelands. On the narrow coastal plains bordering the Indian Ocean, where on-shore trade winds are the prevailing winds,

These are the lands of big game ; their highest parts, e.g. around Nairobi, are also the lands where white men are making settlements. Around the Great Lakes themselves, especially in Uganda, the rainfall increases and so does the amount of country covered by forests.



Photo by L.B.

FIG. 69—MANGROVE SWAMPS NEAR MOMBASA.

Notice (a) that the photograph was taken at low tide, (b) the roots of the mangrove which are covered by water at high tide. Millions of fiddler crabs live on these mud banks, but the boat shown in the picture had really pulled to the bank in order to obtain specimens of climbing fish !

How can East Africa be reached from Britain ? Regular steamship lines run by way of Gibraltar, the Mediterranean, the Suez Canal and the Red Sea, round the horn of Africa and along the coast to *Mombasa*, the chief port of Kenya, and on to *Zanzibar*,

to *Dar-es-Salaam*, the chief port of Tanganyika, and to *Mozambique*, *Beira* and *Lourenço Marques*, the ports of Portuguese East Africa.

Suppose we have landed at *Mombasa*, and have boarded a train on the Kenya and Uganda railway for *Kisumu* on Lake Victoria—a journey that takes

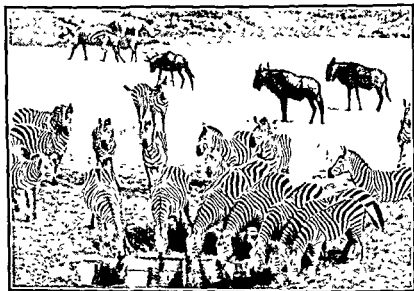


Photo by E.N.A.

FIG. 70.—A HERD OF ZEBRAS AND GNUS AT A WATER-HOLE.

The gnu is an animal with the head of an ox, the body and flowing tail of a horse, and the limbs of an antelope! This photograph was taken in the game lands of Tanganyika, south of Kenya.

thirty-eight hours. The return journey takes only thirty-five hours. Why?

Our train runs across the bridge that links Mombasa's coral island to the mainland. We pass through rich tropical vegetation; groves of coconuts, palms, mangoes and bananas fringe the line, and from time to time we get glimpses of mangrove swamps fringing the coast (see Fig. 69).

We are climbing all the time, and soon reach the higher and much drier plateau. The Taru Desert of



Photo by E N A

FIG. 71.—A LIONESS APPROACHING HER "KILL"

The photograph was taken by flashlight at a distance of 16 yards.
Notice the "kill."

red sand and bright-green thorn bush tells us how dry the country is. Few people live here. "The sand rises into the air with the draught created by the

train and enters the carriage at every crevice." At last the very dry country ends, and just over 200 miles from Mombasa we enter "game" country and, if we are lucky, may catch a glimpse of giraffes. The views we see of the snow-clad Kilimanjaro, 60 miles from the train, are particularly fine. There is cultivated open country here among the hills, where there are many native villages.

Now the train is crossing the vast rolling plains of the plateau, which here are about 5,000 feet above sea-level, and we see on every side herds of antelopes. Zebra, hartebeest, ostriches and gazelles are also numerous, with a few wildebeest; and if we are lucky we may see rhinoceros, buffalo or even lions, although lions rarely show themselves in the open. A large part of this region is the great Game Reserve, where animals are protected and where hunting is forbidden. It is a wonderful thing to go out to the reserve in a motor-car by night. The "spot" light picks up hundreds of pairs of eyes, which look like bright electric lamps. You cannot see the animals themselves.

Three hundred and thirty miles from Mombasa we reach *Nairobi* (nearly 5,500 feet above sea-level), the capital of Kenya, and a famous starting-place of big-game hunting expeditions. "It has its back to the Kikuyu forests, and the Athi plains are at its feet." Nearly a hundred miles away you can see the snowy peak of Mount Kenya.

Around Nairobi are large coffee plantations owned by white men, who employ the natives, mainly of the Kikuyu tribe, to work for them. Maize is grown both by European settlers and by the natives. Cattle,

sheep and goats thrive on the grasslands. Lands formerly the home of thousands of wild animals have now been fenced off as cattle farms. The motor-car is in common use in these regions, and there are several good motor roads. From Nairobi a great main motor road goes north to the Sudan, and another goes south to Lake Nyasa.

West of Nairobi the railway "climbs rapidly

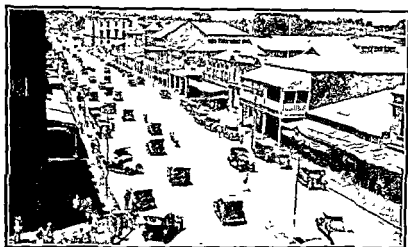


FIG. 72.—A STREET IN NAIROBI.

Notice (a) the "colonial" type of building, (b) the corrugated iron roofs so common everywhere in Africa, (c) the large number of motor-cars.

through open hill country studded everywhere with native kraals" or villages. Here live the Masai, the finest race of all the natives in East Africa, on their special lands known as the Masai Reserve, where they rear large numbers of cattle and goats.

When the railway has reached a height of about 7,400 feet, at a distance of about 400 miles from the sea, it suddenly descends into a deep valley, 40 to 60

for one year and costs £100. No licence is required to shoot "leopards and other vermin." Explain this, and also why there is no limit to the number of lions, cheetahs and Grant's zebras which the hunter may kill.

- (2) Explain why Europeans can settle and live more comfortably in East Africa than in West Africa.
- (3) Find out what the following East African products are and how they are used : Sisal, cloves, copra. Where is each produced ?
- (4) Why are there so many Indians living in East Africa ? What other peoples, not African natives, have made their homes there ?
- (5) Where do the following African peoples live : Masai, Kikuyu, Bagandi ? How do they differ from each other, especially in their way of living ?
- (6) Draw a map of East Africa to show the various political divisions and the capital of each. Indicate the area where white settlers live ; insert the chief railways and name the lakes.
- (7) Why is the Portuguese port of Beira of great importance to Nyasaland, Northern Rhodesia and Southern Rhodesia ?

SOUTH AFRICA

THE voyage to South Africa (from Southampton to Cape Town) takes about eighteen days. The fast liners call at Madeira on the way, but the intermediate boats call at Las Palmas, the chief port of the Canary Islands, and Ascension and St. Helena in addition.

The greater part of Africa south of the Zambezi is

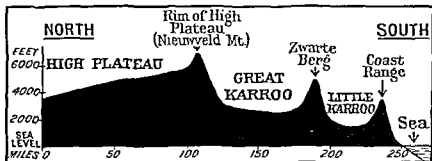


FIG. 76.—SECTION FROM NORTH TO SOUTH TO SHOW THE RELIEF OF THE LAND.

Notice the "steps" to the high plateau (the Karroos), and examine Plate 3.

British. The chief British lands are: (a) the Union of South Africa, (b) the South-West African Territory, and (c) Southern Rhodesia. British South Africa is half the size of Australia and about a third of that of Canada. It is over nine times as big as the British Isles.

Most of South Africa is a high plateau bordered by high mountains, such as the Drakensbergs, which rise to more than 11,000 feet, and the Nieuwveld Mountains. The edges of this great tableland lie some distance from

the sea (see coloured plate 3). Bordering the sea there is usually a narrow coastal plain. Going northwards from the sea, the tableland is reached by two clearly marked plateau steps, the *Little Karroo* and the *Great Karroo* (Fig. 76).

Three great rivers flow across the South African plateau: (a) the *Zambezi*, dividing Northern Rhodesia

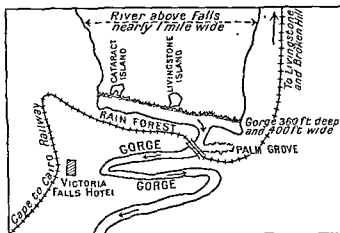


FIG. 77.—SKETCH MAP OF THE VICTORIA FALLS.

Compare this with Fig. 78 and identify as many points of interest as you can, e.g. find the hotel, the rain forest, Livingstone Island, the railway bridge and the station, etc. Who is sharp enough to find out the line along which a new gorge will probably be cut?

from Southern Rhodesia; (b) the *Limpopo*, forming the greater part of the northern boundary of the Transvaal; and (c) the *Orange River*, whose tributary the *Vaal* divides Orange Free State from the Transvaal. The *Zambezi* and *Limpopo* flow eastward down to wet tropical coast plains on the shores of the Indian Ocean, but the *Orange* flows westward to the Atlantic through dry scrub and desert land. All three have falls and rapids where they have cut through the edges of the plateau.



The most famous falls in South Africa are the *Victoria Falls* of the Zambezi, discovered by Livingstone in 1855. He went in a canoe to an island (now Livingstone Island) on the very edge of the falls (see Fig. 77). He writes: "Creeping with awe to the

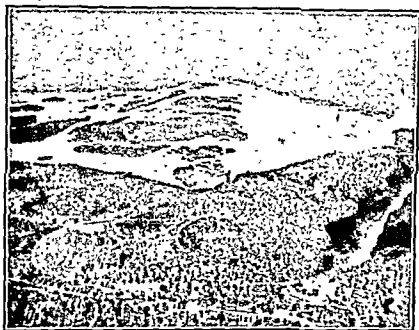


FIG. 78.—AERIAL PHOTOGRAPH OF THE VICTORIA FALLS.

This photograph was taken during the rainy season when most water comes over the falls

verge, I peered down into a large rent which had been made from bank to bank of the broad Zambezi, and saw that a stream of 1,000 yards broad leaped down 100 feet and then became suddenly compressed into a space of 15 or 20 yards. . . . On the right of the island one sees nothing but a dense white cloud, which had two bright rainbows in it. From this cloud rushed

up a great jet of vapour exactly like steam, and it mounted 200 or 300 feet high; there condensing, it changed its line to that of dark smoke, and came back in a constant shower which soon wetted us to the skin." Livingstone's estimates of the width and depth of the falls are somewhat inaccurate, but his general account is most vivid and exact. Actually, the mile-broad Zambezi falls into a cleft or slot about 400 feet broad and 400 feet deep.

The falls are reached by the "Cape to Cairo" line from Cape Town, 1,640 miles away. From the carriage window the spray can be seen long before the falls themselves come into view. Indeed, the falls are not seen until you get quite close to them. Although this line is called the "Cape to Cairo" line, only the southern and northern sections have as yet been made. Tourists can, however, cross Africa from north to south by a "Cape to Cairo" route which is as follows: Cape Town to Elizabethville in Belgian Congo (8 days' train journey); Elizabethville to Bukama, Stanleyville and Buta along the upper Congo by alternative rail and river steamer (18 days); from Buta by motor road to Rejaf on the upper Nile (6 days), and thence down the Nile Valley as described on p. 132. Find out this route on a large map of Africa. The Air Route, however, goes through Kenya and Tanganyika. As early as 1927 the flight from London to Cape Town was made in a moth aeroplane in 27 days.

Look at the South African part of the "Cape to Cairo" line on the map, and notice (a) east and south of it there is a fairly populated country with many towns and railways and several large ports, e.g. Cape

Town; Port Elizabeth, East London, Durban, Lourenço Marques and Beira ; (b) west of it there is a region with very few railways and no large towns or large ports, and a very scanty population. Let us see why this is so ?

The land to the south and east of the railway is much better for human beings than the rest of the

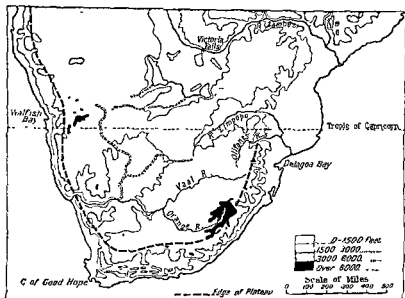


FIG 79.—PHYSICAL MAP OF SOUTH AFRICA.

country. For although many workers get a living at the famous gold-mines of Johannesburg and the diamond mines of Kimberley, most of the people of South Africa, natives as well as Europeans, are farmers, and live by growing grain, fruits and other vegetable products or by keeping flocks and herds. The towns, too, are market centres for the farmers as well as for miners, and the ports live by exporting what the

farmers produce on their farms or by importing the things they need from other lands.

Farmers must have water for their fields and plantations, their flocks and herds, and the southern and eastern regions of South Africa have a good rainfall brought by south-east winds from the Indian Ocean.



Photo by S. Africa Publicity.

FIG. 80.—A SCENE IN THE FRUITLANDS OF THE CAPE PROVINCE.

Oranges are being picked in the foreground. Vines can be seen in the distance.
In what month was this photograph probably taken?

The country round about Cape Town, famous for its oranges and other Mediterranean fruits, has winter rains brought by the westerly winds (see Fig. 87).

But the western half of South Africa is dry, and the westernmost part is actual desert—the Kalahari, which “although in some parts covered with thick bush, or with open plains upon which good grasses flourish, is towards the west made up of a sea of sandhills and

dreary and depressing desert." This is no country to support a large number of people, especially farmers, although much is being done to improve parts of it by irrigation, and some parts *are* suitable for cattle.

South Africans claim that they have one of the sunniest climates in the world. Since so much of it is plateau, it is not so hot as it might be, and the greater part of it is very healthy and suitable for Europeans if only there is rain enough.

In the Cape Town winter-rain region in the south-west corner of the continent, the great business is fruit-growing, fruit-drying and wine-making. South African grapes and oranges are ready for market during *our* winter, when none are being produced in northern lands. Wheat is grown, too, in large quantities. In the summer-rain region of the south-east, on the warm, wet shorelands and slopes of Natal, maize and tea, pineapples and sugar-cane, tobacco and cotton, are grown on plantations where much Indian labour is employed. Maize or mealies is South Africa's chief grain; it forms the chief food of the natives, and a very large amount is used for feeding cattle.

The veld of the high plateau and the poorer grassland of the Karroos support large flocks of sheep (see Fig. 81). Wool is an important cargo from nearly all South African ports. Cattle are reared, too, in very large numbers. Fine dairy cattle flourish in the richer grasses of Southern Rhodesia, the Transvaal and the south-east, where rains are plentiful. Oxen are still the chief means of transport. They also provide the power for ploughing the fields.

South Africa is famous all the world over for gold

and diamonds. "To-day all the roads, railways and aerial routes converge upon the goldfields, and *Johannesburg* is not only the centre of the Witwatersrand gold-mining industry, but is the country's biggest agricultural market and also its commercial capital." Gold was first found in old river gravels and was easily

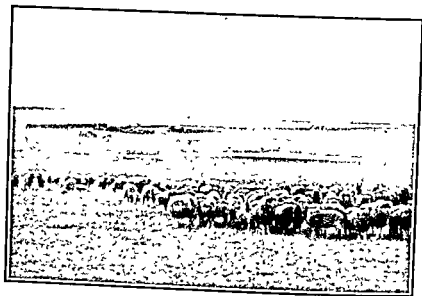


FIG 81.—THE HIGH VELD OF THE TRANSVAAL.

Photo by S. Africa Publicity.

Compare this picture with Fig. 28.

got. But nowadays deep mines (some nearly 7,000 feet in depth) must be bored, and the gold-bearing rock raised to the surface, crushed in wonderful mill and stamp batteries and treated chemically before the gold that it contains can be got. Only rich and powerful companies can afford the expensive machinery which is necessary. The chief goldfields are near *Johannesburg* on the Witwatersrand ("White Waters

Ridge"). Other famous fields are near Barberton. Since 1920 the Transvaal alone has supplied nearly half the world's gold every year. The manual labour in the Rand mines is done by natives, of whom there are about a quarter of a million living in compounds owned and looked after by the mine owners. The

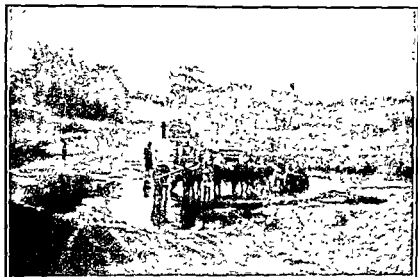


FIG. 82.—TRANSPORT IN SOUTH AFRICA

Photo by f B

Oxen are still the chief means of transport. They also perform the hard work of ploughing, etc. It is most interesting to see the orderly way in which a bullock team falls into line again after a rest. The river shown in the photograph is often impassable during the summer rains.

skilled work is done by Europeans. The compounds are practically small enclosed towns with their own stores, hospitals and recreation grounds. The natives must keep inside the compounds, and live their lives quite apart from their European overseers. Unfortunately the compound system means that they have to live apart from their own families.

Diamonds are got chiefly at the famous De Beers mines at Kimberley, and at several places in the Orange Free State. The famous Premier Mine is near Pretoria, the administrative headquarters of the Union of South Africa. New diamond fields have been discovered south of the lower course of the Orange River, where diamonds are picked up on the surface among the gravels, and in other places. In the Kimberley mines expensive machinery must be employed to raise the hard blue clay in which the stones are found, and to separate the stones when the clay has been broken up. As in the Rand gold-mines, the labour is supplied by natives, who live in compounds and contract to work for a fixed period.

South Africa is rich in other minerals. There are coalfields in Natal near Ladysmith and Newcastle, and *Durban*, the port of Natal, supplies steamers and exports coal. Other coalfields are near Middelburg, in the Transvaal, and at Wankie, in Southern Rhodesia, some fifty miles from Victoria Falls. *Copper* is mined near Ookiep, and is exported from Port Nolloth, south of the Orange River mouth. *Platinum, chrome ore, asbestos* and *iron*, too, are found. Southern Rhodesia is one of the chief producers of asbestos and chrome ore in the world. The mines are found in the belt of highland which lies between Bulawayo and Salisbury, the capital.

South Africa has its own manufactures, too. Boots and shoes and leather goods, explosives for use in mines, food products of many kinds, tobacco, candles, matches and furniture, are the chief manufactured goods produced in the country.

If you were to visit South Africa, one of the first

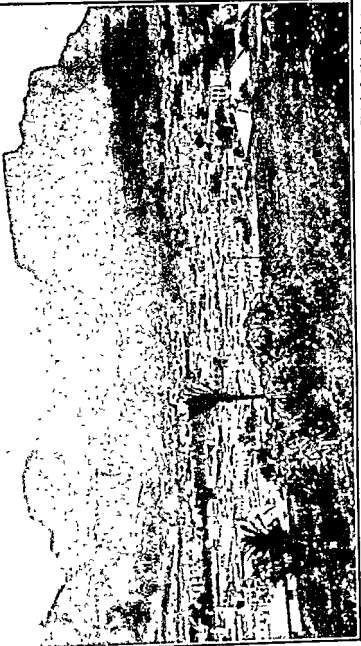


Photo by S. Africa Photo

FIG. 83.—CAPE TOWN AND TABLE MOUNTAIN.

Notice that the "cloth" is on the mountain. This means that this photograph was most likely taken in Summer. Find out why.

things that would strike you on landing at *Cape Town*



FIG. 84.—MAP OF THE CAPE PENINSULA.

Notice (a) the position of Cape Town and Table Mountain, (b) the suburbs of Cape Town, (c) the Cape of Good Hope, (d) the Dutch names. The Cape Peninsula is a wonderful place for a holiday. The surf bathing at Muizenberg is among the finest in the world.

would be the evidences of the former Dutch ownership of the land. You see houses and churches built in the Dutch style, and you see notices and advertisements printed in Afrikaans as well as English. Indeed, the people of Dutch descent outnumber those of English descent. The two white races appear to be settling down well together, and it is well that they should do so, for they number only one and a half millions out of a population of seven millions. How Europeans and Africans should live and work together in the same land is a difficult problem for many parts of Africa to solve, but it is particularly difficult in South Africa, owing to the fact that Europeans have lived there for a very long time and that large numbers of natives have left their villages for the mines and the towns and have broken all tribal connections. Moreover, the native population

increases more rapidly than the white population.

The rulers of our great dominion, the Union of South

Africa, should have all our help and sympathy in their difficult task. Their northern neighbours, Southern Rhodesia, the latest British possession to be given self-government, has a much easier problem. It is a new country, and it is possible for large areas of land to be set apart for the exclusive use of the natives. White men are not allowed to settle in the native parts of the country, and natives cannot settle in white men's towns unless they are in employment.

QUESTIONS AND EXERCISES

- (1) Make a map to show the political divisions of Africa south of the Zambezi. Name the capital of each State and insert the railway from Cape Town to the Victoria Falls.
- (2) Find out where the following people live and how they differ from each other in their mode of life: Zulus, Matabele, Mashonas, Hottentots, Bushmen.
- (3) Find out where Basutoland is, who lives there, and how it is governed.
- (4) Why are there more people living east of the Cape-Cairo line in South Africa than west of it?
- (5) Where is each of the following, what is it, and why is it important: The Veld, the Great Karroo, the Rand?
- (6) Write a brief description of each of the following: (a) Table Mountain, (b) the Victoria Falls, (c) a Zulu kraal, (d) the Kimberley diamond mines.
- (7) Tanganyika Territory and South-West Africa Territory are ruled by Great Britain and the Union of South Africa respectively under mandates from the League of Nations. Find out exactly what this means.

are lands suitable for white men to live in, like most of British South Africa, and, possibly, the higher parts of East Africa, where the height of the land makes life comfortable for Europeans, even on the Equator.

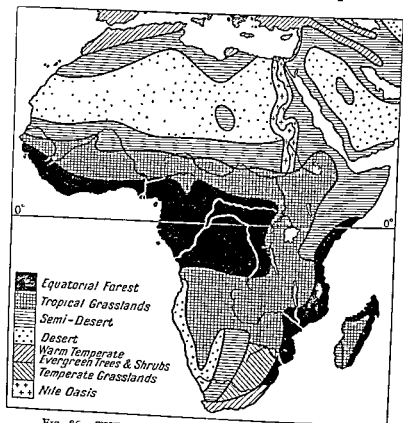


FIG. 86.—THE NATURAL VEGETATION OF AFRICA.
What animals live in each vegetation belt?

Now look at French Africa, and notice how it would be possible for an aeroplane to fly from Algiers on the Mediterranean to Brazzaville, the capital of French Equatorial Africa on the lower Congo, and fly over French territory the whole way. French Africa

extends from the Mediterranean to the Gulf of Guinea on the west; notice the French Ivory Coast and Dahomey. But although it looks very important on the map because of its great area, much of it is desert or semi-desert land, and some of it is equatorial forest. Only in the Barbary States can Europeans settle and live and work and make permanent homes; elsewhere in French Africa they only govern and manage. Notice the large French tropical island of Madagascar on the Indian Ocean; its capital is Antananarivo.

The Portuguese, who were the first Europeans to discover and map the African coast-line and to establish forts and trading centres there, still hold lands in Upper Guinea, in Lower Guinea (Angola) and in East Africa—all hot lands suitable for trade but not for settlement by whites.

Now find Italian lands, Belgian lands and Spanish lands in Africa, and see whether any of these are ever likely to be the homes of large numbers of Europeans. Lastly, notice the two great independent kingdoms, Egypt and Abyssinia and the negro republic of Liberia. *Abyssinia* is chiefly mountain land with deep fertile valleys and broad plateaus where large numbers of cattle are reared. Its capital is Addis Ababa, from which a line runs down to Jibuti, the capital of French Somaliland at the southern end of the Red Sea.

We saw in Chapter 9, which dealt with the "Homelands of Africa," how on each side of the equatorial forests of the Congo we pass through the belts of natural vegetation as we go away from the Equator: (1) Savannah or tropical grasslands; park-like country with summer rains; (2) scrub-land and desert with

little or no rain; and (3) Mediterranean lands of winter rain and summer drought (see Figs. 86 and 87).

Notice how the Mediterranean lands of the north lie

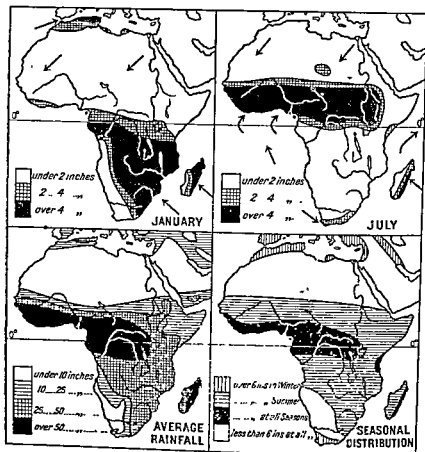


FIG. 87.—RAINFALL MAPS OF AFRICA.

Make constant reference to these maps especially when considering natural vegetation or cultivated crops.

in similar latitudes to those of the south in south-western Cape Colony; and how the Sahara, with its variable Lake Chad on its southern edge, corresponds to the Kalahari, with its variable Lake Ngami.

Examine Figs. 88 and 89 and you will understand this distribution of natural vegetation. Why does the vertical sun appear to move north and south between the two Tropics? The effects of this "swing of the sun" on the seasonal changes of temperature and rainfall are clearly shown in Fig. 86. You should examine these maps very carefully.

Lastly, look at the population map of Africa (Fig. 90).

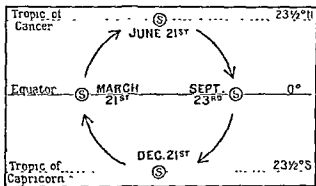


FIG. 88.—DIAGRAM TO SHOW THE SUN'S ANNUAL MIGRATION BETWEEN THE TROPICS.

Why are the northern and southern limits of the migration $23\frac{1}{2}^{\circ}$ from the Equator? If you are interested, find out what is meant by the *Solstices* and the *Equinoxes*, but do not spend too much time on it, for we shall have to go into such difficult matters later in the course.

and read its story. By far the most densely populated region is the valley of the lower Nile, especially its delta; here the Egyptian *fellahin* (peasants) live in their hundreds of villages surrounded by their farms in the rich river silt of the Nile in a climate that is never cold, where crops can be raised all the year round if water is supplied by irrigation.

The eastern side of South Africa, with its abundant rain and sunshine, and the region near Cape Town, with

its dry summers and mild, wet winters, are both regions of fairly dense population.

Next notice the heavy native population in Nigeria, where there are native towns of more than a hundred thousand people, and where tropical agriculture and stockbreeding support many millions of Africans who are perhaps the finest of their race.

As we should expect, the Sahara region in the north

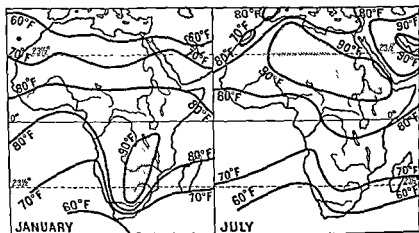


FIG. 89.—TEMPERATURE MAPS OF AFRICA.

What is the connection between these maps and Fig. 88. Can you see in Fig. 87 the influence of both the sun's apparent migration and the distribution of temperature? Try to remember these relationships but do not bother much about the reasons at this stage.

and the Kalahari region in the south are very scantily populated, for life is hard, and often quite impossible, in such dry lands.

Africa is changing rapidly. The railway and the river steamer, the motor-car and the aeroplane, wireless telegraphy and telephony, and ocean traffic are all working together to bring regions that were little known a few years ago within reach of civilisation.

European rulers have established law and order over the greater part of the continent; European teachers, missionaries and doctors have done much to make the

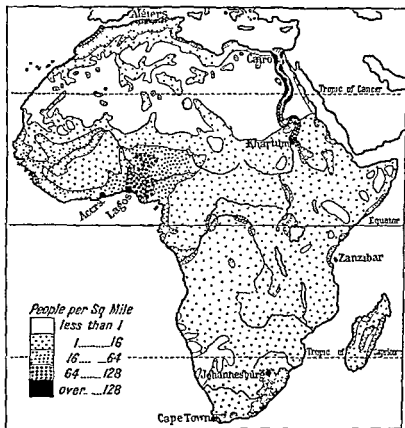


FIG. 90.—THE DISTRIBUTION OF THE POPULATION.

To understand this map you must consult all the other maps in this chapter.

lives of many of the Africans healthier and happier as well as more secure. Much remains to be done under the wise leadership and government of Europeans before the Africans will be able to think and act for

themselves and have their own government in their own continent.

QUESTIONS AND EXERCISES

- (1) Compare the broad features of the relief of Africa with those of South America and illustrate your answer by a sketch map.
- (2) Study the map showing the distribution of natural vegetation (Fig. 86). Compare it with the rainfall and temperature maps (Figs. 87 and 89), and then write out, in your own words, an account of the way in which the climatic factors have influenced the distribution of natural vegetation.
- (3) Which parts of Africa resemble the following regions of South America : (a) Amazon Basin, (b) Central Valley of Chile, (c) Atacama Desert ? Point out any differences.
- (4) Name the islands off the African coast belonging to (a) the British Empire, (b) the Spaniards, (c) the Portuguese. How are they useful to their owners ?
- (5) What is the best time of the year to go to South Africa for a holiday ? Why ? Find out which way you could go, how much it would cost and how long the journey would take.
- (6) State, with reasons, to which African cities the following titles may be given : (a) The half-way house to the East, (b) the Golden City, (c) the southern gate to Rhodesia.

THE HOMELANDS OF AUSTRALIA

AUSTRALIA is an island large enough to be called a continent. It is more than twenty-five times as large as the British Isles, but at present it has fewer people than Greater London. So great an island is bound to have many different kinds of homelands.

If we look at Australia on the map of the world, we shall notice that it lies in the Southern Hemisphere, with the Tropic of Capricorn passing nearly across its middle. Nearly half Australia lies within the Tropics, and rather more than half of it in warm temperate regions.

The northern part of the island continent is as near the Equator as Ceylon and southern India, or the southern parts of the great forests of the Congo and the Amazon. The southern parts of Australia lie in the same latitudes as the Cape Province of South Africa, central Chile and the pampas lands of Argentina. If we remember this, it will help us to understand why many homelands in Australia are very like those we have already seen in southern Africa and the southern half of South America.

Northernmost Australia is a land of tropical forest and jungle where heavy rains fall in summer. It is in this part of Australia that we find many of the native "blackfellows," a dying race which is among the least civilised of the world's peoples.

In the north-east of Queensland live planters who

grow sugar-cane and bananas, cotton and rubber, just as planters do in eastern Brazil. The South-east Trade Winds blow on the Queensland and New South Wales shorelands from the Pacific just as they do on

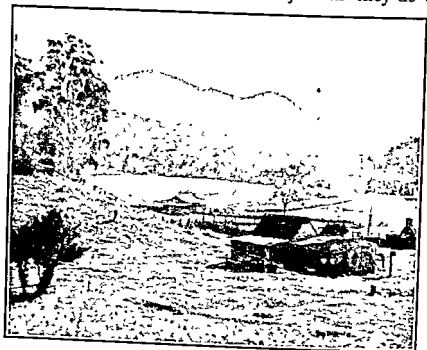


Photo by Commonwealth of Australia

FIG. 91.—A SETTLER'S HOME IN EASTERN NEW SOUTH WALES
The photograph was taken in the valley of one of the rivers not very far from Sydney.

those of Brazil from the Atlantic, bringing abundant rains.

In many of the southern parts of Australia there are lands of dry summers and mild, wet winters where oranges, grapes, olives and other Mediterranean fruits are grown, just as they are in the Central Valley of Chile and the south-western part of the Cape Province of South Africa. Australians living in these lands are

chiefly fruit-farmers or wheat-growers, as we should expect.

Other parts of the island continent, especially in New South Wales, are great natural grass lands where Australians are sheep farmers. Their farms or "sheep-runs" are many of them so large that the sheepmen must have horses to look after the sheep properly, and must spend much of their time in the open air away from their homes or live in little shacks far away from the haunts of men. These sheep lands are much like the veld of South Africa, or the pampas of central Argentina.

In the northern and hotter part of Australia there are wide grasslands used by farmers who rear cattle for their meat and hides. Moister grasslands in the south-east are used by the dairy farmers, who rear cattle for their milk.

Other homelands in Australia are covered with fine tall trees, which are being cut down for timber by lumbermen, and used chiefly for building.

Some parts of Australia are rich in gold and silver, in zinc and copper, in lead and tin, and in coal and iron. Many Australians in these parts are miners, or workers perhaps in mills or factories in the towns close by, where townsfolk live their lives in much the same way as townsfolk do in Britain, except that the climate is in many ways more enjoyable.

Australia then has homelands suitable for planters, fruit-farmers and wheat growers; for sheep-farmers and cattle-farmers; for foresters and miners. In each homeland the Australians live in the way best suited to the region in which they have made their homes.



Photo by E.A.A.

FIG. 91.—A KANGAROO CARRYING HER BABY IN HER POUCH.

Notice the difference between the front legs and the hind legs of the kangaroo. How do they "run"?

In Queensland and the hotter lands in the north they are making the experiment of developing tropical lands by means of white labour. Coloured people are not allowed to settle in Australia, for the policy of the Commonwealth is to maintain a "White Australia." Thus in tropical Australia we have a most interesting experiment being carried out. It remains for the future to decide whether or not European labour can meet the demands of tropical agriculture.

It is a mistake to suppose, as many people do, that all Australians live free, open-air lives on the sheep-runs or cattle lands, or plantations and farms. The truth is that most Australians to-day live in the large towns.

The capital cities of the six states comprising the Commonwealth have themselves about half of the inhabitants of the continent.

"Probably not two out of every hundred Australians have ever seen a wild kangaroo, although there are countless thousands of these animals in the distant bush. Many Australians have never set eyes on a flock of sheep or a herd of cattle larger than one which might be seen within twenty miles of London; yet on some of the large sheep-stations, out-back, over 100,000 sheep are shorn annually, and herds of 50,000 cattle are not uncommon. . . . Probably not more than half the population have seen more than a few dozen of the aboriginal blacks, who, although still numerous in the extreme north and in certain parts of central Australia, have disappeared from nearly all the settled localities."¹

Although Australia has rich lands which can easily support far more people than they do at present, there are some parts which can never be homelands, unless water is brought to them. In the interior of the continent there are many large patches of desert as hot and dry as the Kalahari. But many very dry parts of Australia, once thought to be useless as homes for human beings, have since been turned into fertile fields and orchards by skilful irrigation; and there is no doubt that much more land, which at present is too dry for farming of any kind, will some day have water brought to it and be fit for people to live in.

How was it that the British came to settle in Australia and build up a great Commonwealth there?

¹ L. St. Clare Grondona.

They were not the first to discover it. The Portuguese had seen its shores long before the first Englishman came that way, and so had the Spaniards. The Dutch went there from their islands in the East Indies at the very beginning of the seventeenth century and tried



Photo by E.N.A.

FIG. 93 —THE GREAT BARRIER REEF.

This wonderful coral reef lies off the coast of Queensland. Find out (a) how long it is, (b) how it was made. See also page 245. If you possibly can, obtain a coloured photograph of part of the reef. The variety and beauty of the colours will surprise you.

to make homes along the hot northern shorelands. Other Dutch sailors explored parts of the western and southern coasts, and called the country New Holland and marked it so on their maps.

Tasmania, the island off the south-eastern shore of Australia, was named after Tasman, the great Dutch

navigator who had called it Van Dieman's land in honour of Anthony Van Diemen, governor of the Dutch East Indies in his day.

But none of these early explorers really thought Australia a good land for Europeans to live in. The Dutch and the Spaniards who visited the northern shores found them too hot and too wet, and too much covered with forest and jungle to be comfortable for *white men*.

Those who sailed along the western and southern shores saw chiefly dry and apparently barren wild country that seemed of little use for settlers, and when they landed in search of wood and water they were sometimes attacked by the wild people who lived there.

Tasman saw the lovely island of Tasmania, which was by far the best part of the new land visited by the Dutch. He also saw New Zealand.

But when Captain James Cook explored the eastern shores of Australia in 1770 he coasted along a beautiful and fertile land, where British settlers could make new homes. One part, indeed, reminded him of country he knew well at home. Cook therefore called it New South Wales, because its hills and valleys reminded him of South Wales. He also saw the Great Barrier Reef (see Fig. 93).

The British then were fortunate enough to see the best part of Australia, and not land such as the Dutch and the Spaniards had seen. That is an important reason why the British began to settle in the island continent; they had discovered lands there which were worth while. The lands along the shores explored by Captain Cook in 1770, and the country

behind them are to-day the most thickly populated parts of Australia ; and along that coast are some of Australia's largest cities.

QUESTIONS AND EXERCISES

- (1) Make a map of Australia to show which parts are the highlands and which parts are lowland. Mark the . Murray-Darling, and the great salt lakes of the interior.
- (2) How far is the north of Australia from the Equator ? What parts of South Africa lie in the same latitudes as the island continent ? On a map of South Africa sketch the outline of Australia. Be sure that the two scales are the same, and also that you put Australia in its proper position as regards latitude.
- (3) Compile a list of Dutch names on the coast of Australia, which tell that the Dutch visited these places ; and find names on the east coast which remind us of Captain Cook's famous voyage in 1770.
- (4) The Commonwealth of Australia is divided into a number of large states. Draw a map to show these, and mark the state capitals. Mark also the capital of the Commonwealth.
- (5) What kind of " homes " were first founded on the site of Sydney ? Read an account of their origin and end.

- AUSTRALIAN SHEPHERDS -
- AND CATTLEMEN -

AUSTRALIANS who have made their homes on the great grasslands get their living chiefly by rearing sheep or cattle. *Sheep-rearers* live on the drier grasslands ; for too much rain is not good for sheep, which get foot-rot and other diseases where the ground is too wet for them. *Cattle-rearers*, however, prefer the moister grasslands, for cattle must have more water than sheep. They are also able to endure a hotter climate. It is true, however, that on many large farms in the island continent both sheep and cattle are reared ; but even then the cattle seek the moister parts and the sheep the drier parts of the farmlands.

Fig. 113 shows where Australia's great grasslands lie. Notice that they are mainly in a wide belt around the central dry lands. Nearest the large patches of real desert, the land is only thinly covered with grasses, which soon wither beneath the hot sun ; but low shrubs called salt-bush grow there, and sheep flourish well on these. The only difficulty is that the salt-bush takes time to grow again after sheep have been feeding on it, and really needs several seasons' rest before sheep can be grazed there again.

Farther away from the driest lands the grasses grow tall and thick, and although they get dry in the dry season, they do not wither and turn black as they do farther inland. The sheep-farmer nowadays does not

depend on the rain for water for his flocks as he used to in the old days; he has deep wells bored to fetch up water from great depths, and leads the water in channels to those parts of his land where it is most wanted (see Fig. 94, and page 203).

In the old days, when very dry years came, sheepfarmers in some parts of Australia lost all their sheep



Photo by L.N.A.

FIG. 94.—AN ARTESIAN BORE IN THE DRIER PART OF QUEENSLAND.

Where is the water coming from? How does it get there?

from lack of water. A man who at the beginning of the year was worth many thousands of sheep, might easily be practically ruined before the end of the dry season. But to-day the boring of deep wells and the use of irrigation have changed all this. Many lands formerly too dry for use have been made into sheep pastures by irrigation or even into fertile fields and orchards (see Fig. 95).

Other sheeplands, especially in the hotter and wetter areas, have scattered trees growing on them as well as rich grasses. These lands look like great open parks, although the trees are very different from those in our parks at home. Such park-like country is known as Savannah; we read of it on p. 103 when

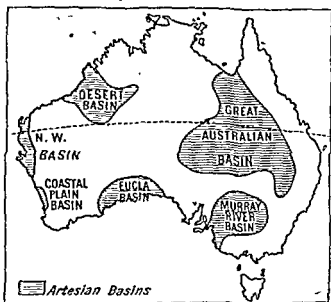


FIG 95—THE ARTESIAN BASINS OF AUSTRALIA.

The map shows the parts of the Commonwealth which are or might be irrigated by water from artesian bores. Are there artesian bores in Britain? In London?

we were studying Africa. It is in country like this that both sheep and cattle are often reared on the same farms.

Australia has about 80 millions of sheep, and more than half of these are reared by the sheep-farmers of *New South Wales*, whose wide sheeplands lie on the drier lands west of the Great Dividing Range and in

the basin of the Murray-Darling, Australia's chief river (see Fig. 97).

Sheep-runs there are vastly greater than sheep-farms in Britain. To-day, however, they are not nearly as large as they used to be, although there are still "sheep-stations" which can muster 150,000 sheep; for in

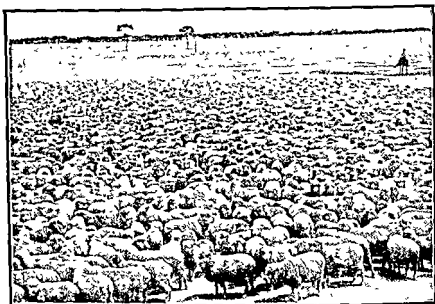


FIG. 96.—MUSTERING SHEEP IN NEW SOUTH WALES.

Compare this photograph with Figs. 28 and 81.

recent years the very large "stations" have been cut up into several smaller ones. Nevertheless, it is still necessary for the stockmen to do most of the station work on horseback, because of the size of the sheep-runs, which are divided into great fields by fences. Australians call these fields *paddocks*, some of which are big enough to feed 5,000 sheep and more. "It may take half a dozen stockmen a day—or three days—to

effect a clean muster of a ten-thousand-acre paddock. . . . Some sort of a row must be made to disturb the sheep and set them on the run, for in the long grass it is almost impossible to see them if they stay still. . . . If one does not possess a dog of some description, he

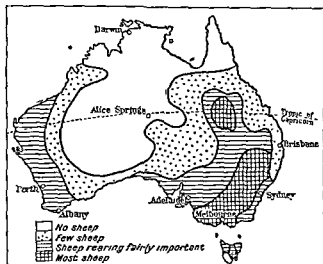


FIG. 97.—MAP OF THE SHEEP-LANDS OF AUSTRALIA.

Compare this with Fig 113.

makes a 'tin dog' by threading tobacco tins on a loop of fencing wire, which make a horrible din."¹

Sheep-yards are made at chosen spots over the whole run, so that the animals can be "mustered" or driven together for marking, or shearing, or dipping (to clean them of ticks and other insects) or for other purposes.

Shearing is done chiefly in August and September; it comes earlier in the warmer north, and later in the cooler south, or on the hills. "Shearing is done within a large building—the woolshed. The sheep are driven

¹ Grondona.

into a drying shed, which holds enough sheep for one day. It is important that the wool should be quite dry when shorn. . . . Along the walls of the woolshed



Photo by L. N. A.

FIG. 98.—A SHEEP-SHEARER AT WORK.

In a single day this man and four others sheared 1,135 full-grown Merino sheep. His tally was 253—practically one in each four minutes of his eight hour day. Notice that he has machine shears. Where is the sheep's head? What is a Merino sheep?

is the shearing board, where men stand with their shears, machine or hand-worked," ready for the sheep. Machine shears are in common use nowadays. By their aid one man can shear 100 sheep and more in an eight-hour day. The shears are fixed to the power

shaft by flexible metal tubes, which permit the shearers to use their shears at any angle.

When the wool has been carefully sorted it is packed in bales that have been pressed tightly by hydraulic power to make them less bulky, and are bound with hoop iron before going on board ship for export. Though the greater number of Australian sheep are reared for wool, many are reared particularly for their

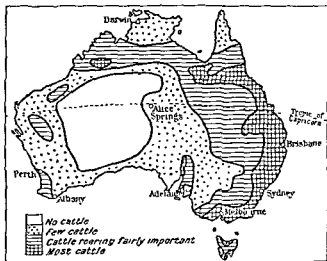


FIG. 99.—MAP OF THE CATTLE-LANDS OF AUSTRALIA.

mutton, which is frozen at freezing works, and covered with thin cotton cloth for export to Britain.

Cattle, reared chiefly in the wetter east and north of Australia in regions which have more than 20 inches of rain every year, feed over even wider pastures than sheep, and cattlemen in the less settled lands of the north and north-west must be good horsemen and well mounted to cover the long distances (see Fig. 99). Some cattle have to be driven hundreds of miles from

their pastures to the nearest railway or port, feeding and fattening as they go, and taking months on the journey. Frozen beef and canned meat are important exports from Australia, especially from Queensland; and hides, too, are valuable. In some of the larger towns leather goods are manufactured from hides which have been tanned with Australian wattle bark.

Large numbers of Australian cattle, however, are *dairy cattle*, fed on rich pastures and yielding splendid milk, which is sent to the creameries and butter factories. The coast plain of New South Wales, the upper basin of the Murray and Murrumbidgee, Gippsland in Victoria, and Tasmania have the best dairy cattle in Australia.

Australian dairy farmers have to guard against the very dry weather that sometimes lasts long enough to cause drought, for then the pastures wither, and it is hard to find food for the cattle unless the farmers have provided reserve fodder.

Lucerne is grown and stored as "hay." Other green fodder, such as maize and sorghum, is packed into brick or concrete towers called *silos*, or into any well-enclosed space, in which it is kept in good condition for a long time. Cattle, sheep and horses love it, for it is very sweet, although it may have turned brown when the silo is opened (Fig. 100).

Australian butter is largely exported to Britain, and is becoming a serious rival to the New Zealand butter that has long been famous for its excellence. One champion cow produced 1,586 lb. of butter in 365 days. Australian cheese, too, is becoming better known in our shops, but the amounts sold are still very small

in comparison with the very large quantities that come from New Zealand and Canada. The skim milk left after the cream is taken is used for feeding large numbers of pigs for the bacon factories.

It is difficult to-day to realise that there were no sheep, cattle, horses or pigs in Australia until they were

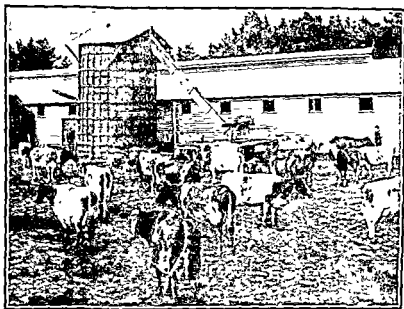


Photo by Commonwealth of Australia.

FIG. 100.—A DAIRY HERD AND SILO

taken there by Europeans. The native Australian animals are different from those of other lands. Most of them are *marsupials* or pouched animals, and they carry their newly born young in pouches until the young ones can look after themselves (see Fig. 92). Kangaroos, of which there are many kinds, wallabies, native bears and wombats, have pouches. Stranger still is the platypus or duck billed mole which lays

eggs. Of Australian birds the emu and the cassowary, large running birds resembling the ostrich, and the beautiful lyre-bird are the best known.

Camels were introduced from India in 1872, when the Overland Telegraph Line was being constructed, and ever since then have been of great value in the drier districts.

QUESTIONS AND EXERCISES

- (1) Explain why the rearing of sheep and cattle are so important in Australia. Show on an outline map of Australia :
(a) regions where *most* sheep are reared, (b) regions where *most* cattle are reared.

- (2) Make a diagram to show the amounts of butter brought to Britain from Australia from 1925 to 1929 :

1925 .	56,193 tons.	1928 .	33,582 tons.
1926 .	40,454 ..	1929 .	43,121 ..
1927 .	30,216 ..		

- (3) Here is a verse by Adam Lindsay Gordon (1833-1870), a noted Australian poet. What does it describe ?

" 'Twas merry 'mid the backwoods
When we spied the station roofs,
To wheel the wild scrub cattle at the yard,
With a running fire of stock whips,
And a fiery run of hoofs
Oh ! the hardest day was never then too hard."

- (4) Write an account of *either* a day at a modern sheep-farm during the shearing season, *or* a day at a cattle-ranch during branding time.

- - AUSTRALIAN FARMERS - -
- - AND PLANTERS - -

EVERYWHERE in Australia there is plenty of sunshine ; but *not* everywhere is there plenty of rain. Farmers need both sunshine and rain if their farming is to be successful ; and if we wish to know where crops are raised and fruits are grown in Australia we must first look for regions where there is sufficient rainfall.

A great deal of Australia is very dry. But nowadays, as we have already seen, so much has been done to supply water by irrigation that lands formerly useless for farming have become fertile fields or orchards yielding heavy crops. Fortunately for Australia there is a great deal of underground water in many regions, and this water can be brought to the surface by boring deep wells known as "artesian wells," from which water can be led great distances in canals and channels to thirsty fields, orchards and gardens (see Figs. 94 and 95). Great dams, too, have been built in the upper courses of some of the rivers where rain is plentiful, creating huge reservoirs from which water can be led to lands far away in the drier country. One very famous dam is the Burrinjuck Dam across the gorge of the Murrumbidgee, a tributary of the Murray, which holds back a monster reservoir of water to irrigate orchards and fields many miles distant in the dry country of New South Wales.

One famous irrigation settlement watered from it is at

Yanco. "Water channels at regular intervals, glistening under the sun's rays out of a cloudless sky, give the impression of a gigantic chessboard. The fields are rectangular; all the farms have orchards of apparently the same size, their vineyards and pasture lands appear to be standardised. . . . The rows of deciduous and

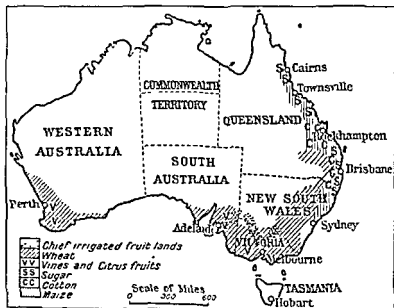


FIG. 101.—MAP TO SHOW THE DISTRIBUTION OF THE CHIEF VEGETABLE PRODUCTS.

citrus fruit trees, or grape and other vines, are faultlessly parallel."

Another way of getting water from the Murray when the river is low in the dry season is by means of lift pumps, that raise the water to irrigation canals a little above the level of the fields, so that it flows easily along a myriad of channels.

Some parts of Australia, however, have abundant

rain, most of which comes during the hot season when plants grow fast. " All along the east coast to the north of New South Wales the winds blow from the Pacific to the land. They are moist onshore winds, and give the heavy rains which rise to 165 inches a year near

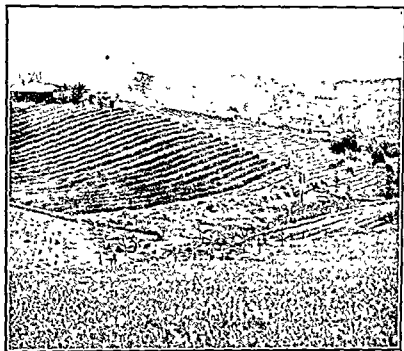


Photo by Commonwealth Immigration Office.

FIG. 102.—TROPICAL FRUIT GROWING IN QUEENSLAND.

You can distinguish bananas quite easily. Pineapples occupy the foreground.

Cairns." ¹ These winds are the South-east Trade Winds. As they pass inland they lose their moisture, so that by the time they have leapt the eastern highland barrier and passed on into the interior they have become quite dry ; and therefore the land interior over

¹ Griffith Taylor.

with *mallee scrub*, a kind of dwarf gum or eucalyptus which, viewed from above, "resembles a great sea of dark-brown foliage extending far away to the horizon" (see Fig. 113). For a long time nobody attempted to make use of land covered with this tough vegetation, but nowadays "the scrub is beaten down by having great rollers drawn over it by horses; that in time



Photo by Commonwealth of Australia

FIG. 104.—HARVESTING WHEAT.

kills it. Then the roots are dug up for firewood, and the rest burned, so that the land can be ploughed and sown with wheat."¹ Much worse kinds of scrub, called *mulga* and *brigalow*, which are the thorny tough bushes of the acacia family, cover large areas of the drier north and interior.

We must not forget to say something about the pests which Australian farmers and stockbreeders have to

¹ Sir Frank Fox.



Photo by Commonwealth of Australia

FIG. 105.—MAIZE GROWING IN SE AUSTRALIA.

Which is the maize? Figs. 99 and 101 show that the chief cattle lands are also the chief maize lands. Why is this?

fight in order to work successfully. In all countries growers of plants and rearers of animals have to fight insect plagues and plant and animal diseases with all the skill that science can lend them. But in addition to all these pests, Australian farmers have special foes against which they must wage everlasting war.

One is the rabbit, which is not Australian, but was brought into the country from England. It has multiplied with extraordinary rapidity, and it eats up growing crops or robs animals of their pasture. Rabbit-proof fences have had to be made to keep them out of lands needed for man and his animals. A native animal that eats up growing things intended for more important creatures is the kangaroo; but kangaroos have been so hunted in most of the farming regions that they are not nearly such a nuisance as they were twenty years ago. The sheep-farmer's enemy is the dingo or native Australian dog, a single one of which can destroy a dozen or more sheep in a night. He has been so hunted and trapped, however, that he, too, is becoming far less troublesome.

QUESTIONS AND EXERCISES

- (1) Make a map of Australia to show (a) the chief wheat-lands, and (b) the ports from which the wheat is exported.
- (2) In what parts of Australia are fruits grown like those of (a) Britain, (b) Natal, (c) the Mediterranean lands? Give reasons.
- (3) In which part of Australia do white workers find the climate the most difficult in which to work? Why?
- (4) Make a list of things grown in Australia and suitable for use in making Christmas puddings.

- AUSTRALIAN WORKERS IN - - MINES AND FACTORIES -

MINERAL wealth generally occurs in old hard rocks. A great deal of the island continent is made up of very ancient rock, and is perhaps the oldest land surface of the globe. This old rock of the western plateau was once part of a great continent to which most of Africa and parts of India and South America belonged many millions of years ago ; but this old continent was broken up, and parts of it sank to form the beds of the South Atlantic and the Indian Oceans, leaving remnants which to-day form the oldest parts of the three southern continents (see Fig. 129).

In the hard old rocks of South America the Brazilian diamond and gold-mines occur ; in South Africa the gold of the Rand and other rich mineral deposits are found in them ; and in Australia, too, the most valuable mines are where ancient rocks occur.

The whole of the great *Western Plateau* is made up of the old rocks which belonged to the sunken and broken continent of bygone days. The *Eastern Highlands* (called by the general name of the *Great Dividing Range*, but known locally by various names) are folded rocks not so ancient as those of the Western Plateau, but nevertheless very old indeed. Between the Western Plateau and the Eastern Highlands lie the *Central Lowlands*, which chiefly consist of much younger rocks, and include the basins of Lake Eyre

(36 feet *below* sea-level), and of the Murray-Darling. But south of the Central Lowlands are other very old rocks, which stand out in mountain ridges such as the *Flinder's Range* that overlooks Spencer's Gulf. Spencer's Gulf is the drowned sea end of a rift valley

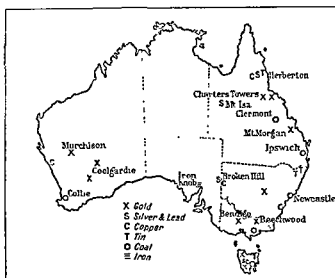


FIG. 106.—MAP OF THE CHIEF MINING CENTRES OF AUSTRALIA.

(see also p. 158), and the salt Lake Torrens is a flooded hollow in it.

Which of these four great divisions of Australia are likely to be rich in minerals? All, except the Central Lowlands—for the other three, the Western Plateau, the Eastern Highlands and the South Australian Highlands, are made of the ancient rocks in which metal ores or coal basins are most likely to occur.

It was *gold* that first brought settlers to Australia in large numbers. Colonists had gone to live there long before, and a little gold had already been found in many

places; but it was the discovery of gold in large quantities, near *Bathurst* in New South Wales, by E. Hammond Hargraves in 1851 that caused people from all parts of the civilised world to go to seek their fortunes in Australia.

Hargraves had been a miner in San Francisco, where

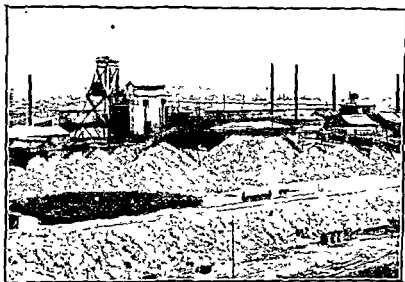


Photo by E.N.A.

FIG 107.—A GENERAL VIEW OF ONE OF THE KALGOORLIE GOLD MINES.

a gold rush had occurred in 1849, and his experienced eye saw in the Macquarie river valley near his new home in Australia signs that gold was there. He sought and found it. The news spread like wildfire: "Stock-riders left their cattle, shepherds their flocks, school-masters their desks, and clerks their counting-houses." Many became rich beyond their maddest dreams, for this gold was "placer" gold, easily washed out of the

old gravels in tin pans, or picked up in nuggets from diggings.

The Government of Victoria then offered a reward of £200 to anyone who should discover a gold-mine there, and before the close of 1851 rich goldfields had been opened up at *Ballarat*, *Bendigo* and other places in Victoria. Within ten years half a million men from all parts of the world had joined in the "gold rushes" to Australia. When the first richness of the new finds was exhausted, many of these diggers turned their attention to the greater and more lasting riches of Australia: they became farmers and stock-breeders, and began the settlement of new lands in the island continent.

New discoveries in Western Australia, in 1891-2 at *Coolgardie*, and in 1893 at *Kalgoorlie*, brought more miners—this time to country that was dry and waterless and hard to live in. To-day Western Australia is by far the most important gold-mining state in Australia. Other gold deposits were discovered in Queensland at *Charlars Towers*.

Fig. 106 shows where the chief goldfields of Australia are to-day. Most of the old fields are now yielding poorly; the newer fields, like those of South Africa, are worked by wealthy companies, who can afford the expensive machinery necessary to get out the gold-bearing rock and treat it scientifically to recover the gold that is in it.

Silver and lead from Australian mines are worth more nowadays than the gold! *Broken Hill*, in New South Wales, is the chief silver mining town. *Zinc* is mined there, too. Notice the railway from Broken Hill to

Port Pirie on Spencer's Gulf, where huge smelters get the metal from the ore, and where large ships take it away in ingots or bars. Tasmania has silver, lead and zinc mines at *Zeehan* and *Mount Lyell*.

Copper is another important Australian metal. The mines in the old rocks of the Flinder's Range in South

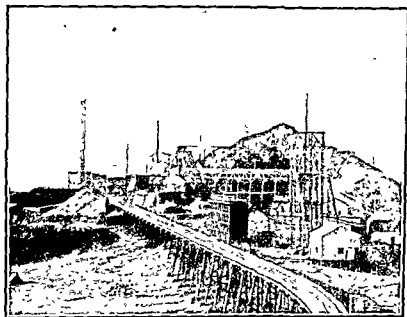


Photo by E. N. A.

FIG. 108.—A GENERAL VIEW OF A SILVER MINE AT BROKEN HILL.

Australia once led in copper production, but the mountains of Queensland and Tasmania (which is a detached part of the Eastern Highlands) are now much richer.

Tin ores are worked in Tasmania, in New South Wales and in Queensland.

But it is chiefly to *coal* and *iron* that a country must

look, if manufactures and trade are to be carried on successfully—iron to make steel for machinery and coal to provide steam to drive it. For in spite of the growing use of electricity, power from coal still drives most of the world's trains and ships and most of the world's factories. Australia has coal and iron in abundance ; and among her highlands she has plenty of water-power, some of which is already harnessed to the service of man in the form of "white coal," i.e. electricity.

Australia's *coal* output is worth that of all her other minerals put together. It is unfortunate that her richest *iron* deposits are far from the coal ; but there are some coalfields, especially the large one near Newcastle in New South Wales, that have good iron too, and can carry on iron and steel making on a big scale. At *Iron Knob*, near Port Augusta in South Australia, there is a hill which is almost all iron ! It is quarried, not mined, and sent by sea to Newcastle in New South Wales.

The *New South Wales Coal Basin* is the richest and biggest in the southern hemisphere. The largest city in Australia, Sydney, is almost in the middle of it, although the actual mines are some little distance away. This coalfield may be compared with that of Natal : both have a *Newcastle* ; but the Australian Newcastle, like our own, is on a deep navigable river.

Other important Australian coalfields are in Queensland, near *Ipswich* ; in Western Australia, at *Collie*, near Bunbury ; and in Tasmania, where the coal is used in smelting silver and lead, zinc and tin.

Australia's *factories* are chiefly in and near the great

cities, in which the greater number of Australians live, and where the manufactured goods can readily be sold. The population of the Commonwealth of Australia is between six and seven millions—rather less than that of Greater London. Of these over a million live in *Sydney* and its suburbs; another million live in *Mel-*



Photo by Commonwealth Immigration Office.

FIG. 109.—SCENE IN A QUEENSLAND MEAT WORKS.

Describe what is taking place.

bourne and its suburbs; *Brisbane* has about 275,000, *Adelaide* about 320,000 and *Perth* nearly 200,000. Thus the five large state capitals alone have over $2\frac{3}{4}$ millions living in them.

The factories are chiefly those which use the products of field, farm and forest: sugar-mills; flour-mills; meat-freezing plants and canneries; tanneries; butter,

cheese, condensed milk and bacon factories ; saw-mills, furniture works, wagon works ; jam, biscuit, soap, and boot and shoe factories ; woollen mills and clothing factories. New South Wales and Victoria, where population is densest, have most factories and people who get a living by working in them.

In these factories Australia produces goods not only for her own people but for those living in the South Sea Islands, and even (in the case of frozen and canned meat) for the people of Britain.

QUESTIONS AND EXERCISES

- (1) Make a map to show the physical divisions of Australia, and mark on it the position of the various mining areas mentioned in this chapter.
- (2) What climatic difficulties had gold-miners to face in Western Australia, and how were they overcome? Be sure to find out exactly how the miners at Kalgoorlie and Coolgardie obtain supplies of water.
- (3) Find out where pearls and pearl shell are got off the Australian coasts. How is pearl shell used in Britain?
- (4) How did gold-mining help the early development of Australia? Why is it that more work is found for people on coalfields than on goldfields?

- LOOKING BACK AT AUSTRALIA -

BEFORE we leave Australia to study New Zealand and the South Sea Islands, let us pull together the chief points we have learned. Perhaps we shall add to our knowledge, too.

Australia lies between the Indian Ocean and the South Pacific, with the Tropic of Capricorn crossing it a little north of its middle, showing that nearly all the northern half of it is in tropical latitudes, and the rest in temperate latitudes.

The continent falls into four physical divisions :

(1) *The Western Plateau* of ancient rocks, rich in gold, and a remnant of a prehistoric continent to which parts of Africa and South America belonged. On the southern shorelands facing the Great Australian Bight is the *Nullarbor Plain*, so called because it is treeless.

(2) *The Eastern Highlands* of old rocks with coal basins and metal ores, and known as the *Great Dividing Range* because it divides the narrow coastal plain from the broad plains of the interior. The *Australian Alps* belong to this highland system: they contain Mt. Kosciusko (7,328 feet), the highest peak in Australia.

(3) *The Interior Lowlands* between (1) and (2), formed of much younger rocks and consisting of (a) the Lake Eyre basin of inland drainage, and (b) the Murray-Darling basin.

(4) *The South Australian Highlands*, a comparatively small area south of (3), containing the rift valley which

has a sea-drowned end in Spencer's Gulf and lake-filled hollows inland (L. Torrens).

Notice how poor Australia is in *rivers*. Only the Murray-Darling can be navigated for any great distance; the shorter rivers on the east are deep and

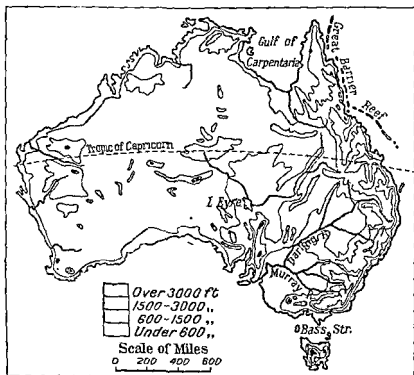


FIG. 110.—PHYSICAL MAP OF AUSTRALIA.

Identify the four physical divisions mentioned on p. 219.

navigable for a short way inland, but are subject to floods. In dry summers the interior streams become mere strings of water-holes or dry up altogether.

The *climates* of Australia can be best understood if we keep in mind the build of the continent, and if we remember that most of the Commonwealth lies in the

belt of the *South-east Trade Winds* from the Pacific Ocean. We must also study Figs. III and II2 very carefully. The Trade Winds bring abundant rains all the year round to the greater part of the eastern shorelands, but passing inland become drier and drier until desert country is the result. This is the reason

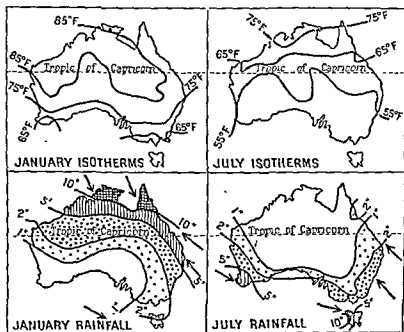


FIG. III.—TEMPERATURE AND RAINFALL MAPS OF AUSTRALIA.

why so much of the interior of Australia is arid land and, in some places, actual desert.

Northern Australia, however, has heavy summer rains in the hot season (November to April), brought by the *North-west Monsoons* which blow from the ocean towards the heated land. But these winds do not carry moisture very far into the interior.

season the trees seem to be in tatters from trunk to topmost branches. In a few weeks the bark drops . . . the limbs with their new bark glisten white as though enamelled." Giant tree-ferns 50 feet high grow in the wetter eastern forests.

Now look at the population map (Fig. 114), which should not prove difficult to understand. Most of the

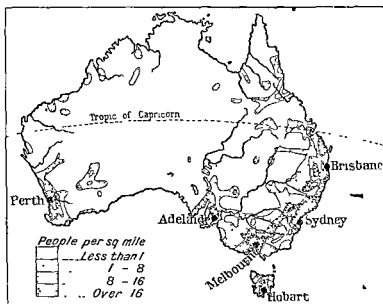


FIG. 114—THE DISTRIBUTION OF THE POPULATION.

Compare this map with Figs 110-113 and also with Figs. 41 and 90.

people live in the south-east and the extreme south-west, for in these parts of the Commonwealth rain is sufficient and the sun's heat is not too great. There is, however, a fair sprinkling of people along the much warmer eastern coastlands of Queensland. Remember also that half of Australia's people live in the capital cities,

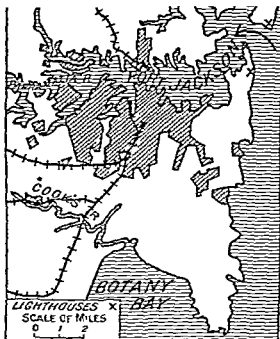


FIG. 115.—THE POSITION OF SYDNEY.

This map shows that Sydney lies on the magnificent sheltered harbour Port Jackson.

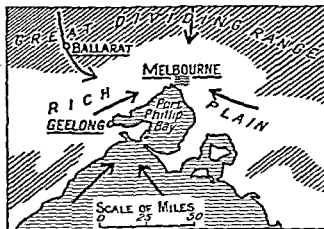


FIG. 116.—THE POSITION OF MELBOURNE.

This map shows that Melbourne stands at the head of the almost land locked Port Phillip Bay in a splendid position for the control of important routes.

with the greatest concentration around the two great cities of Sydney and Melbourne. Figs. 115 and 116 show what fine sites these two cities occupy.

Australian aborigines, the "blackfellows," have almost died out in Victoria and New South Wales, but there are still some 50,000 scattered about the sparsely peopled areas, especially in the north and north-west. They are very primitive people and were using stone axes when first discovered. They are short in stature, their skin is dark brown in colour, their hair is black and wavy and the men usually have a profusion of beard. Most of their time is spent in hunting, an occupation in which they have developed marked skill, especially in the use of the boomerang, a curved wooden weapon so shaped that it returns to the thrower if it misses its objective, and the throwing stick, by means of which a spear can be thrown with great force.

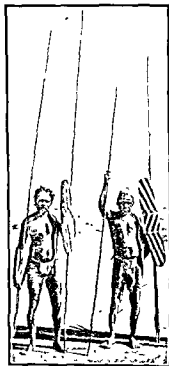


Photo by Commonwealth
Immigration Office

FIG. 117—ABORIGINES
FROM THE NORTH WEST
OF WEST AUSTRALIA

The *railway map* (Fig. 118) is interesting, especially when we study it side by side with the population map. Notice how the capital cities are the great railway centres as well as the chief ports: *they are sea-gates and land-gates*. The map, however, does not

show the many aeroplane services now in operation in Australia, nor the many motor roads in use. *Aeroplanes* are of great use in Australia as means of communication with out-lying districts not reached by rail. They regularly carry the mails, even between points linked by rail, for they are far speedier. *Motor-cars*

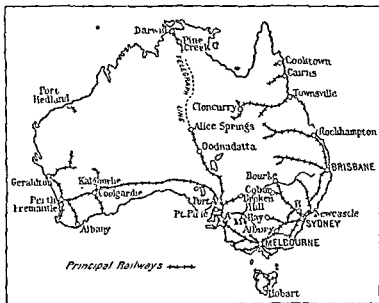


FIG. 118.—RAILWAY MAP OF AUSTRALIA.

Compare this map with Fig. 114.

of many kinds are of immense service up-country, where they are growing rapidly in number and superseding the old wagons and carts.

The railway map shows a continuous rail route from *Perth* and *Fremantle* in Western Australia to *Brisbane* in Queensland. But it is a little misleading, for it is impossible to travel in a "through" carriage between

these capitals because Australian railways are of three different gauges and it is necessary to change trains several times. From Fremantle trains run on the 3 feet 6 inch gauge to the gold city of Kalgoorlie; from Kalgoorlie they go by "Trans-Australian" line to Port Augusta (4 feet 8½ inch gauge); from Port Augusta to Terowie, some 130 miles north of Adelaide, on a 3 feet 6 inch gauge; from Terowie to Albury on a 5 feet 3 inch gauge; from Albury to Wallangarra (i.e. across New South Wales) on 4 feet 8½ inch gauge; and from Wallangarra to Brisbane on a 3 feet 6 inch gauge. The total distance from Fremantle to Brisbane by rail is 3,488 miles, and takes about 130 hours.

The newer and finer section is the Commonwealth-owned "Trans-Australian" railway between Kalgoorlie and Port Augusta (1,051 miles), which is built on the standard world gauge of 4 feet 8½ inches. It crosses the Nullarbor plain, where there is a perfectly straight stretch of rail for 300 miles, and in its whole distance does not cross a single permanent stream of water.

Australia is likely to have a trans-continental railway from north to south in the near future. It is planned to follow the direction of the Overland Telegraph line. The southern section from Port Augusta via Oodnadatta to Alice Springs, and the northern section from Darwin to Katherine, are already completed.

It was in 1901 that the five Australian states and Tasmania united to form the Commonwealth of Australia. The difficulty of selecting a capital was got over by conferring the honour on *Canberra*, a small township some 150 miles south-west of Sydney. Here



Photo by Commonwealth of Australia.

FIG. 119.—THE BEGINNINGS OF CANBERRA, THE COMMONWEALTH CAPITAL.

The building is the new Parliament House.

the Australians have set to work to build up what they hope will eventually prove to be one of the world's finest cities. Like Washington, the capital of the United States of America, it is neither a port nor a commercial centre, and its planning will be entirely designed to create a city worthy of being the Federal capital of so important a member of the British Commonwealth of Nations.

QUESTIONS AND EXERCISES

- (1) Make a map to show the distribution of forests, grasslands and deserts in Australia.
- (2) Find out all you can about the Australian natives and their ways of living. Why are they called "aborigines"?
- (3) What kinds of people are likely to do best as settlers in modern Australia? In what parts of the Commonwealth are the best opportunities for them? What people should *not* emigrate to Australia? Why?
- (4) Make maps for Adelaide, Brisbane and Perth along the lines of those for Melbourne and Sydney (Figs. 115 and 116).
- (5) Find out how the *Commonwealth Territory*, north of South Australia (see Fig. 101), is governed.

- NEW ZEALAND, "THE -
- BRITAIN OF THE SOUTH" -

SOME 1,200 miles across the Pacific from Sydney is *Wellington*, the capital of the Dominion of New Zealand. It stands on the deep sheltered harbour of Port Nicholson in North Island, an arm of Cook Strait which divides North Island from South Island. A journey of 426 miles (a little more than the rail journey from London to Glasgow) along the main railway of North Island takes us to *Auckland*, the former capital. A steamer journey four hours long across Cook Strait takes us to *Blenheim*, in South Island; and an eight-hour voyage by fast steamer to *Christchurch*, on its hill-enclosed harbour on Port Lyttelton, the chief railway centre and the largest city in South Island. *Wellington* is thus well situated as the capital of the Dominion; *Auckland* was rather "out of the way" for people in South Island (see Fig. 120).

The third island is Stewart Island, very much smaller than the two large islands we have mentioned. The whole Dominion is about five-sixths the size of the British Isles. There are several outlying islands for whose government New Zealand is responsible: the Chatham Islands, Kermadec, Cook Islands and other smaller ones. New Zealand also has the Ross Dependency—a huge slice of the Antarctic continent—to look after, for she is not only the nearest part of the British Empire to it, but has taken her share in Antarctic ex-

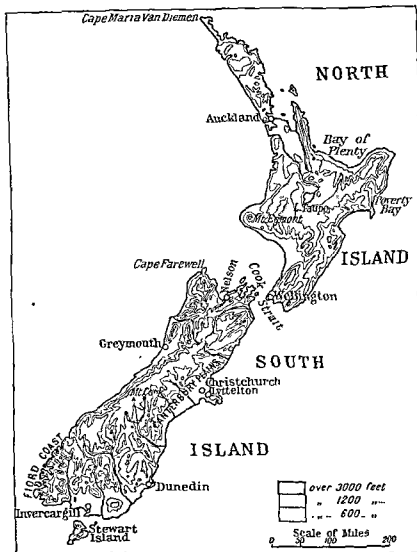


FIG. 120.—PHYSICAL MAP OF NEW ZEALAND.

How does North Island differ from South Island in the chief features of its relief?

ploration. The mandate to govern the former German possessions in the Samoan group was also given to New Zealand by the League of Nations.

New Zealand is often called "the Britain of the South," for, like Britain, the Dominion consists of a group of large islands and many small ones; and the great majority of its million and a half people are of British stock. "There are many of the natural features which strongly resemble those of Great Britain, and the people are if anything more intensely and patriotically British than the people of Britain themselves. But it is altogether a brighter and sunnier Britain, not only in its equable climate and freedom from any extremes of heat and cold, but in its beautiful slumless cities, in its lack of any blots of "Black Country" and in its greater opportunities offered to every citizen."¹

Now let us look at the map of the world to see exactly where New Zealand lies in the southern hemisphere. It is, in fact, nearer the Equator than Britain. North Island is in similar latitudes to those of middle and southern Spain, and South Island is in similar latitudes to those of northern Spain and southern France, which explains why New Zealand is sunnier and warmer than Britain. South Island and Stewart Island have climates most like that of Britain. North Island has a climate somewhat resembling the "Mediterranean" type we are now familiar with. Being an island surrounded by great oceans, it has rain at all seasons, *although summer is the driest time of the year.*

¹ Boyd Cable.

When Captain Cook sighted the high coast-line of New Zealand in 1769, he thought it must be part of the great southern continent which geographers of his day believed to exist in the South Pacific. But sailing northwards, he rounded the great cape, Maria van Diemen, which Tasman had discovered 120 years earlier, and then sailed southwards along the west coast of North Island until he could turn east through the great strait which to-day bears his name, thus proving that the new land was a large island and not part of a continent at all. The *Endeavour* then sailed completely round South Island (1770), after which Cook explored the eastern coast of Australia. The coasts of New Zealand, like that of eastern Australia, have many names that remind us of Cook's famous voyage and of the men who accompanied him.

Cook found New Zealand inhabited by the warlike Maoris, who lived in "pahs," or fortified villages. He thus described them in his journal: "They are a strong, rawboned, well-made, active people rather above the common size, of a dark-brown colour, with black hair, thin black beards and white teeth. Both men and women paint their faces and bodies with red ochre mixed with fish-oil. (They were tattooed in wonderful patterns.) They wear ornaments of stone, bone and shells at their ears, and about their necks, and the men generally wear long white feathers stuck upright in their hair."

At the present time there are about 65,000 Maoris in the country, and they live chiefly in North Island. They have their own schools, their own lands, and their own representatives in the New Zealand Parliament.

All the large islands of the Dominion are mountainous. The mountain backbone of *South Island* is the Southern Alps, which are higher than the mountains of North Island, and have sixteen snow-peaks overtopping 10,000 feet, with magnificent glaciers coming down to within 700 feet of sea-level. The highest peak is



Photo by N.Z. Publicity.

FIG. 121.—THE FRANZE JOSEF GLACIER, SOUTH ISLAND

This view reminds us of the Swiss Alps. It gives us a glimpse of the magnificent mountain scenery of South Island.

Mount Cook (12,349 feet), which the Maoris call *Aorangi* ("Cloud Piercer"). In the south are many lovely lakes from which rivers flow.

The Southern Alps are much nearer the west coast than the east coast, so that they have on the east the wide *Canterbury Plains*, and on the south the plains of *Otago*—both splendid sheep country. As the pre-

How do the New Zealanders get their living? Their country is a "young one," and not an "old one" like ours, which has been long settled. They live by using the gifts of the earth and the opportunities of their

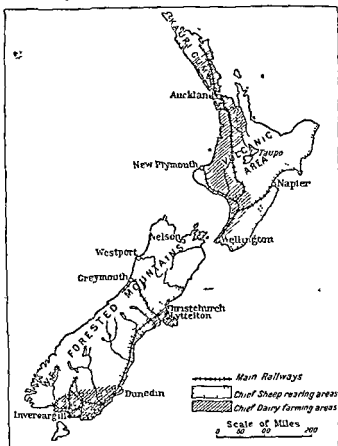


FIG 123 —MAP OF NEW ZEALAND

fine climate, and their industries are mainly pastoral—dependent on their flocks and herds. If we find out from a book of reference the chief exports of New Zealand, we shall see where her wealth really lies, for the



PLATE 4—SCENE ON THE CANTERBURY PLAINS.

This scene shows a mustering of sheep in the rolling sheep country in the western parts of the Can

list, in order of value, will be: wool, frozen meat, butter and cheese, skins and hides, tallow, preserved milk.

Ninety-four per cent. of the value of New Zealand's total exports come from animals reared on the pastures. The drier pastures of both islands (the Canterbury and Otago Plains in South Island, and the eastern and southern coast plains in North Island) are natural grasslands ideal for sheep (see coloured plate 4). The ports on these coasts (Lyttelton, Dunedin and Invercargill in South Island, and Wellington and Napier in North Island) have large meat-freezing factories, and send away enormous quantities of wool, frozen mutton and lamb, and skins. Most of these go to Britain by way of the Panama Canal.

Cattle, too, are reared in large numbers on the moister pastures, especially those of the Auckland peninsula and Wellington Plains. They are chiefly dairy cattle, and dairying is carried on scientifically to ensure the highest production of the very finest milk, cream, butter and cheese. Pigs flourish on the skimmed milk from the dairy farms.

A fifth of New Zealand is covered with fine forests. The famous kauri pine is now nearly all cut down; but fossil kauri gum (used for making fine varnish) is dug on the sites of ancient forests in North Island. Wheat, oats and fodder are grown in the ploughlands, and fruit-farming (especially apples and plums) is an important business around *Nelson* and in the sunnier eastern parts of both islands. Grapes and oranges grow well in the Auckland peninsula. You probably expected this from what was said about the

climate (p. 233). *Phormium*, or native flax, is grown for rope-making.

Among the hard old rocks of the Southern Alps and of the mountain chains of North Island there are rich deposits of *gold*, which in early years brought many settlers, just as it did in Australia and South Africa.



Photo by N Z. Publicity.

FIG. 124.—DAIRY FARMING IN NORTH ISLAND.

The photograph shows cattle coming in to be milked at Pukepoto.

The chief gold-mines to-day are in the mountains of North Island between Hauraki Gulf and the Bay of Plenty, and in Otago, in South Island.

As we saw in Australia, *coal* is *more important* to a country than gold. The chief coalfields lie on the north-western shores of South Island, with outlets at *Westport* and *Greymouth*.

Factories are springing up in New Zealand, just as they are in Australia. They rely on the raw materials from the pastures, the forests and the farms. They are meat factories, woollen and clothing mills, tanneries and leather works, saw mills and breweries. New Zealand is rapidly developing her water power, and electricity is quickly replacing steam power in mills and factories.

QUESTIONS AND EXERCISES

- (1) The New Zealanders say of their climate: "A man can always work here with his coat on in summer, and with it off in winter." What do they mean by this?
- (2) On the map of New Zealand find Young Nick's Head, Cape Turnagain, Queen Charlotte Sound, Banks Peninsula, Poverty Bay, Bay of Plenty and Cape Farewell, and then explain how, and when, they got these names.
- (3) In what ways do the Southern Alps of New Zealand resemble the Alps of Switzerland? Try to illustrate your answer by pictures taken from handbooks and literature distributed by steamship companies, etc.
- (4) What does this table tell you about New Zealand?

Animals 1928.	Millions.
Sheep	27 1
Cattle	3 5
Pigs	6
Horses	3

Give what explanation you can.

- (5) Find out from a book of reference, e.g. the *Statesman's Year Book*: (a) What percentage of the population is of British descent? (b) What percentage of the trade (exports and imports separately) is conducted with Great Britain? Comment on your results.

THE ISLES OF THE PACIFIC

THE south-western Pacific is thickly studded with tropical islands, which vary in size from the large island of New Guinea (three times the size of Great Britain) to very small ones that are mere rocks or coral reefs.

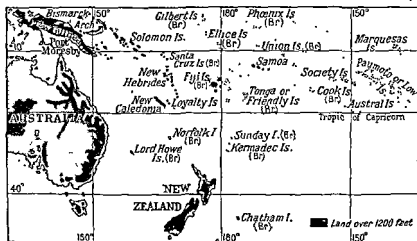


FIG. 125.—MAP OF THE SOUTH SEA ISLANDS.

These islands are often called "The South Sea Islands" or "Oceania" or "The Isles of the Pacific."

Most of them belong to the British Empire; but France, the United States and Japan all have a share in the control of the Western Pacific and own island groups there. The Australian Commonwealth governs the British half of New Guinea (Papua), the Bismarck Archipelago and Norfolk Island; the Dominion of New Zealand governs the Auckland, Chatham and Cook

Islands, and some of the Samoan Islands; and the British High Commissioner for the Western Pacific is the governor of the Fiji Islands, the Solomon Islands, the Friendly Islands and the Gilberts. The large



Photo by Tropical Press.

FIG. 126.—A VILLAGE ON THE COAST OF NEW GUINEA.

This particular village is built out of the water on the sheltered side of an island. Doubtless it was built in this fashion as a protection against hostile land tribes from the interior.

island of New Caledonia and several smaller groups belong to France.

New Guinea is a large island in equatorial latitudes, and is covered chiefly by dense equatorial forests and jungles. The western half is Dutch; the eastern (Papua) is British, with its capital at *Port Moresby*. Part of the little-known interior is high plateau with

thick tall grasses. The southern part is thickly forested lowland, through which flows the Fly River.

In Papua much is being done by missionaries and others to educate the natives and teach them to live settled and orderly lives instead of taking part in fighting and cannibalism. The government encourages the Papuans to cultivate their land and grow coconuts like the white planters, who own large plantations of rubber, sisal hemp and coconuts. White men have found gold, copper and other metals in Papua, and oil has also been discovered there.

But the interior is as yet little explored, and is inhabited by cannibal tribes, among whom it is scarcely safe to venture unless one is well armed and in force. The Papuans on the coast are expert canoemen and fishermen, whose villages are built on piles above the water like those of the lake-dwellers of old (see Fig. 126). Others live inland in villages of palm- or grass-thatched huts, and grow taro, vegetables, tobacco and fruit in their small gardens or hunt birds and small animals in the forest.

Most of the smaller South Sea Islands are either *high*, rocky and volcanic; or they are *low* coral islands. They rise from a very deep ocean. The volcanic islands (for example, the Fiji Islands and the Samoan group) have been upheaved above the ocean bed. Their slopes are deeply gullied by the heavy rains, and thickly clad with tropical vegetation. On their rich volcanic soil all kinds of crops can be raised. In *Fiji*, for instance, European and Indian settlers as well as the natives grow bananas, sugar, tobacco, maize, tea, rice and rubber, and rear cattle and other

animals. Fiji's chief port and capital is *Suva*, in the island of Viti Levu.

The islands entirely built of coral are low, and are the work of living organisms—coral polyps—which

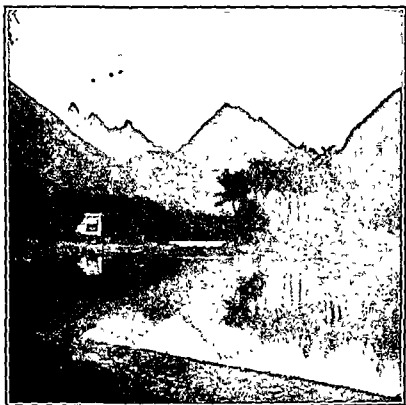


Photo by E.N.A.

FIG. 127 —TWILIGHT IN A SHELTERED CORNER OF ONE OF THE
HIGH ISLANDS

live and work in colonies in very warm shallow water. In some cases they build upon a submerged rock mass, probably a volcanic peak, building up the coral until finally it reaches sea-level. In other cases they build a reef around the margins of a peak which lifts its head

above sea-level. The peak slowly sinks below sea-level, the coral pólyps meanwhile building to maintain their



Photo by E.N.A.

FIG. 128 —A VIEW OF PART OF AN ATOLL, A LOW ISLAND MADE OF CORAL.

Describe this view and compare it with Fig. 127.

reef at sea-level. In this way ring-shaped *atolls* are chiefly formed.

Waves break up masses of coral, and heaps of sand are formed. Drifting vegetation is stranded there and when rotted helps to make more soil. Birds, winds and the sea bring seeds and nuts to grow there, so that in time the bare coral is transformed into an island on which people can live.

Many of the large volcanic islands have fringing coral reefs; others have barrier reefs enclosing lagoons, which are the home of the pearl oyster and myriads of fish. A fringing reef becomes a barrier reef if the land mass sinks somewhat into the sea. The most wonderful barrier reef in the Pacific is the Great Barrier Reef off the coast of Queensland, extending from Torres Strait 1,200 miles to the southward (see Fig. 93).

Coconuts, pandanus fruit and fish form the chief food of the coral islanders. "Pandanus fruit resembles a huge raspberry about seven inches in diameter, and each seed is like a shaving brush dipped in cold cream and sugar." The inhabitants of the high volcanic islands despise it, but in the low coral islands it is much appreciated. Copra (or dried coconut kernels) and pearl shell are the chief exports of the low coral islands of the Pacific.

Certain islands (e.g. Fanning Island and the Fijis) are important because they are the landing-places ("stepping-stones") of important Pacific submarine telegraph cables; others, like Nauru, have rich deposits of phosphates, while New Caledonia has rich nickel mines.

The Pacific Islands are usually divided into two great groups, the *Melanesian*, so called on account of the almost black colour of the inhabitants, and the

Polynesian. These names have also been given to the people. The line of Longitude 180° E. and W. roughly divides the two groups, although New Zealand should go with Polynesia, and the Fiji Islands, as you might expect from their position, belong to both.

The Melanesian people are dark and frizzy-haired, like the people of New Guinea, the Papuans (see Fig. 126), and form a striking contrast to the taller, wavy-haired, light-brown Polynesians, of whom the Maoris and the Samoans are the best examples (see Fig. 122).

QUESTIONS AND EXERCISES

- (1) On Fig. 1 there is a dotted line dividing the East Indies. This line is known as *Wallace's Line*? Find out what it stands for.
- (2) Distinguish between the physical features and the products of "high" and "low" islands.
- (3) Find out the conditions that best suit the coral polyp. Which is the coral-island group farthest from the Equator?
- (4) Draw diagrams to illustrate (a) Barrier Reefs, (b) Fringing Reefs, (c) Atolls. Give examples of each.
- (5) Yams and breadfruit are common foods in the high islands of the Pacific. Describe them and say how they are used.

- THE SOUTHERN CONTINENTS -

Now that we have seen how people live in South America, Africa and Australia, and why they live as they do in their different homelands, we can consider the Three Southern Continents together.

First of all let us think of them as comparatively "*new*" continents—new, that is, in European civilisation. All three are lands where the great majority of the native races are being governed by Europeans, and where the most primitive savages still exist as well as highly civilised people. The Amazon Indians, the Pygmies of the Ituri Forest, and the Australian "black-fellows" still live in much the same way as their ancestors did two thousand years ago; but the cities of Buenos Aires, Cape Town, Sydney and Wellington are among the finest cities in the world of to-day.

These continents are "*new*" in another way. All of them are very rich in minerals; all have wonderful wealth in farms, fields, forests and fisheries; but men have as yet hardly begun to make use of the great stores of natural wealth in these lands. In all of them there is room for many more people; all of them can easily produce much more food and raw materials for the world's people than they do at present.

Two of them—Africa and South America—were once homes of ancient civilisations, evidence of which is shown in the monuments, temples and ruined cities

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